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The Performance Of The Northeast Indiana Economy Over The Past 30 Years, The Major Forces Shaping That Performance, And Some Thoughts On Appropriate Economic Policy To Enhance Future Performance

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THE PERFORMANCE OF THE NORTHEAST INDIANA ECONOMY OVER THE PAST 30 YEARS, THE MAJOR FORCES SHAPING THAT PERFORMANCE, AND SOME THOUGHTS ON APPROPRIATE ECONOMIC POLICY TO ENHANCE FUTURE PERFORMANCE

by

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Thanks go to Maclyn Parker, President of the Cole Foundation, for providing resource materials, suggestions, and encouragement.

Arguably, the most authoritative source of the failures and successes of the northeast Indiana economy over the last thirty years is Lincoln Schrock, Coordinator of Indiana Northeast Development. He knows the history because he was a principal player in attracting much of the economic development that took place in northeast Indiana. His insights, comments, and files were invaluable in completing this project.

Two other key players in economic development, in Allen County especially, are Mark Royse, Deputy Director, Economic Development, Allen County, and John Stafford, Director of External Affairs, Ameritech. Thanks go to them for their reviews and comments.

Obviously, the authors are responsible for all errors.

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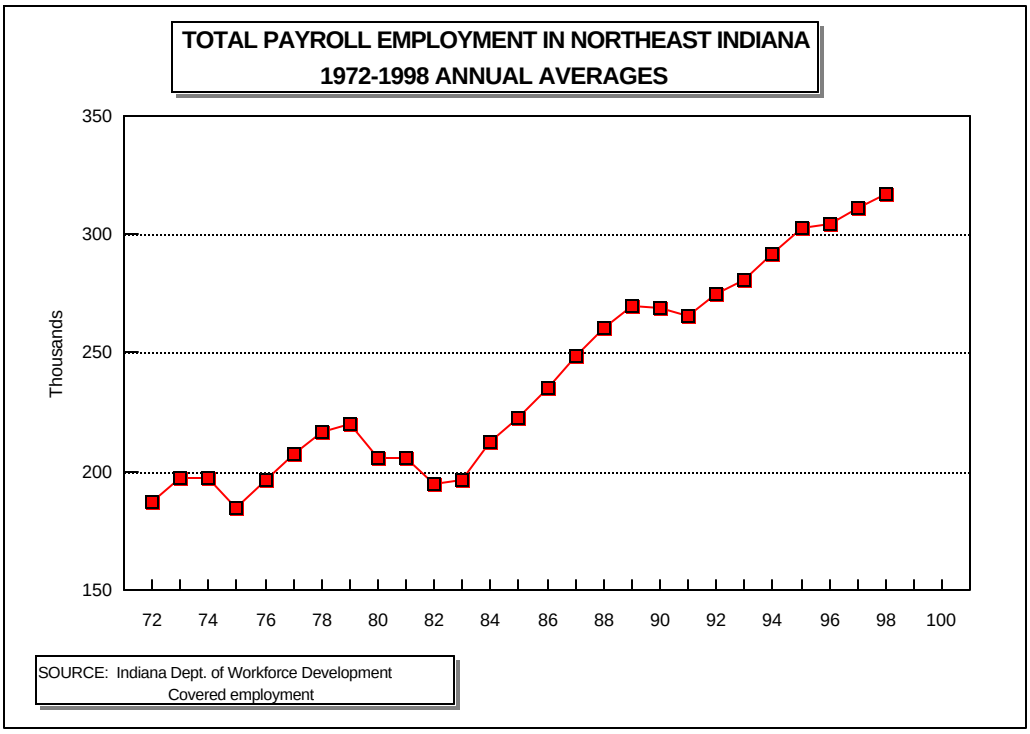
INTRODUCTION

The chart below shows average annual employment in Northeast Indiana (NEI) from 1972 through 1998. Between 1979 and 1982 was a period of profound economic distress for NEI. More generally, the early eighties were a time of profound economic distress for Indiana and surrounding states that collectively came to be called the "rustbelt states." Fort Wayne was sometimes referred to as the belt buckle of the rustbelt states because it was more-or-less in the geographical middle; but more importantly, the closing of the International Harvester (now Navistar) heavy-duty truck-assembly plant with its 10,000 plus workers epitomized the sudden loss of relatively high-paying, manufacturing jobs the rustbelt states experienced during the early eighties.[1]



Shortly after 1982 the rust on the belt buckle began to flake off. **Fortune** magazine went even further in its November 10, 1986 edition by headlining Fort Wayne (and NEI) as "A Rust Belt City Tak(ing) on a Shine."[2] During the same period, two other major business weeklies and **The New York Times** also published articles chronicling the recovery of the region.[3]

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[1] **Forbes** described Fort Wayne as being "… in the heart of the rust bowl." (See reference below.) The **Chicago Tribune** noted, "If America has a Rust Belt, this area (NEI) ought to be its tarnished buckle, sitting astride the nation's age-swollen midsection halfway between Chicago and Detroit." Daniel Resenheim, "Why Northeastern Indiana Is a Hotspot for Industry," **Chicago Tribune**, February 3, 1985, business section, p. 5.

[2] The highlighted quote in **Fortune** read: "Cities galore play the game of wooing new industry. But few have wooed more ardently—or reversed an economic slide faster—than Fort Wayne and its go-getting mayor, Win Moses. The city bagged jobs by sticking to what it knows best: manufacturing."

[3] "America's Mood: Still Finding the Silver Lining," **U.S. News & World Report**, May 27, 1985, pp. 22-25; and "It was Hell, But I Survived," **Forbes**, October 22, 1984, pp. 70-74. and Barron, James, "Fort Wayne is Succeeding by Sticking to Its Smokestacks," **The New York Times**, March 2, 1986, p. E5.

This study is an effort to understand better the factors that (1) have played a major role in NEI's longer run success in recovering from the 1979-1982 debacle and (2) are likely to continue to play a major role in NEI's future. In order to better understand where the economy of NEI is headed in the new millennium, it is important to understand where it has been. In this study, the long run is considered to be approximately the last thirty years; although, when data are readily available, longer time periods are analyzed.

The report consists of three main sections: (1) the facts: an analysis of the NEI economy over the last approximately thirty years, (2) analysis and conclusions: the major factors that likely caused the facts to be what they are, and (3) recommendations: some ways possibly of altering/of improving the projected status quo future.

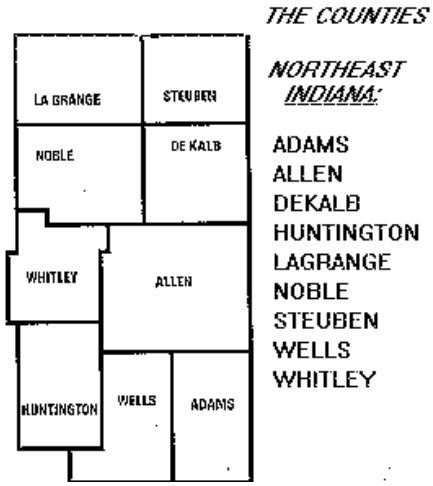
When attempting to grasp at least a rudimentary understanding of a particular economy—in this case, NEI—the likely first question is "What is the population of NEI?" The next questions are related to jobs: "How many jobs? What kind of jobs? In what types of industries?" The first section of this study contains detailed answers to those types of questions.

But the more important question to ask is "Why does the NEI economy have the population, job characteristics, etc. it does?" That is, what major factors have *caused* the population, job characteristics, etc. NEI has possessed, currently possesses, and likely will possess in the near future? [4]

Depending upon how satisfied citizens and policy makers are with past outcomes and projected outcomes, they may desire to intervene with policy changes in an attempt to change the likely status quo outcomes. A list of recommendations to at least be considered in enhancing the projected status quo outcomes comprises the final section of this study.

DEFINITION OF NORTHEAST INDIANA

For purposes of this study, northeast Indiana is defined to include the nine counties of Adams, Allen, DeKalb, Huntington, LaGrange, Noble, Steuben, Wells, and Whitley. The logic for this definition was as follows.



THE COUNTIES OF

NORTHEAST INDIANA:

ADAMS
ALLEN
DEKALB
HUNTINGTON
LAGRANGE
NOBLE
STEUBEN
WELLS
WHITLEY

[4] One problem is that often it is impossible to separate factors from economic outcomes—the classic chicken or egg question. For example, is population a factor or an economic outcome? The answer is it can be either or both. People moving to a different geographical area in order to acquire a job (or a more desirable job) there produce an increase in the population in the area—the job opportunities produce the population change. But an increase in population can also cause employers to move to an area. In that case, the population increase produces more job (opportunities). For example, people have moved to Florida because of its warmer climate and employers have followed.

Official metropolitan economic areas in the United States are determined using criteria established by the Office of Management and Budget (OMB). The areas are known as metropolitan statistical areas (MSAs). "Over the course of the century, metropolitan population has increased from 30 to 40 percent of the nation to almost 80 percent today…. Any individual metropolitan area relies on a common labor force, federal and state government (typically), location, climate, and infrastructure." [1, pp. 2-3] According to the latest guidelines established in 1990, the Fort Wayne MSA consists of Adams, Allen, DeKalb, Huntington, Wells, and Whitley counties.[5] As of the 1990 census, its total population was 456,281 of which almost 66 percent (300,836) resided in the core county Allen. For purposes of this study, three other counties—Lagrange, Noble, and Steuben—were added to the MSA definition.

Based on the criteria for being included in an MSA, Noble County almost qualified in 1990. According to the 1990 census, Noble County had out-commuting to Allen County of 11.7 percent and an urban population of 29.6 percent. If either the out-commuting had been at least 15 percent or the urban population had been at least 35 percent, Noble County would have been included. Using the 1990 guidelines, Noble County probably qualifies currently.

Steuben and Lagrange counties are sandwiched between the seven counties just noted and the Michigan and Ohio borders. For services, especially state government services, these counties naturally turn to Fort Wayne, the largest nearby urban area in Indiana. Furthermore, many Allen County residents regularly commute to Steuben and Lagrange counties to enjoy the many fresh-water lakes located therein. Many own vacation homes there. Therefore, it is also appropriate to include Steuben and Lagrange counties in the definition of NEI.

Lagrange, Noble, and Steuben counties had a combined population of 94,800 as of the 1990 census.

The state of Indiana has officially designated the nine-county region as a sub-state region—region 3; so the nine-county area has some official recognition as an entity.

FACTORS OF PRODUCTION

The factors of production in any economy can be classified into three broad categories: land, labor, and physical capital.[6] Machinery and buildings are prototypical examples of physical capital.

Land is the generic term used to represent all the natural resources (not just land) existing in an economy—e.g., water, minerals, and air.

Labor is the generic term representing the quantity and quality of the human population in an economy. Without a population there are no workers, and there are no consumers. There is no economy! Thus, the quantity and quality of labor are major factors in determining the production—and the productivity—of an economy.

HUMAN CAPITAL

The quality of labor—its education, training, health, work ethic, etc.—is often referred to as human capital. (That is contrasted with the physical capital noted above.) As just noted, the level of human capital has been determined to be a major factor in determining the success of an economy.[7] Probably it is the *most*

[5] The 1990 guidelines were applied to the 1990 census data to determine the current set of MSAs. OMB has proposed major revisions to the 1990 guidelines. "New" metropolitan areas, based upon information from the 2000 census, will probably be announced in 2003.

[6] Samuelson, Paul A. and William D. Nordhous. 1998. **Economics**, 16th ed. Irwin McGraw-Hill, p. 10.

[7] Many third-world countries have an abundant population, but the population has little education/training (human capital) and little physical capital. Consequently, the countries produce little.

important factor, especially given the increasingly technological world in which we work and live. As Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System, has noted:

> The advent of the transistor and the integrated circuit and, as a consequence, the emergence of modern computer, telecommunication, and satellite technologies have fundamentally changed the structure of the American economy…. A hundred years ago, physical brawn was critical to value-added determination. People who personally could lift rolled sheet steel and help haul it from one part of the plant to another performed an activity that was valuable in the marketplace. Today, several generations later, the structure of production has become, to a remarkable degree, idea-determined. [38, p. 173]

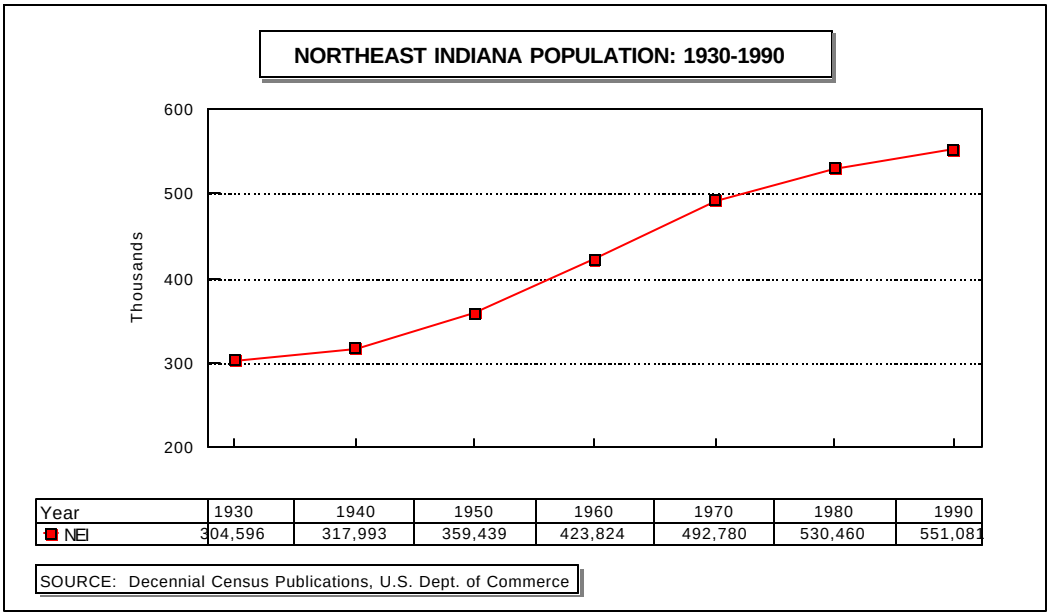
Higher levels of human capital generally result in greater production, higher wages, and a greater percentage of the population that works.

Population--Actual

Obviously, one of the major determinants of the potential amount of human capital existing in an economy is the population itself.

Level and Trends

The population of NEI increased 80 percent between 1930 and 1990—from 304,596 to 551,081.

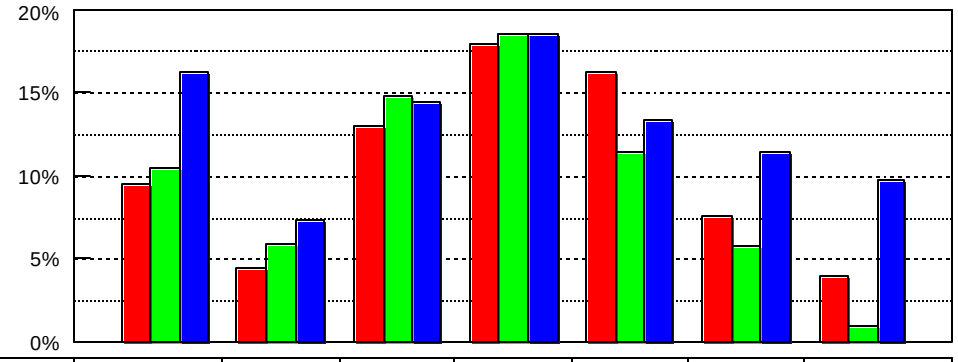


Year	1930	1940	1950	1960	1970	1980	1990
NEI	304,596	317,993	359,439	423,824	492,780	530,460	551,081

SOURCE: Decennial Census Publications, U.S. Dept. of Commerce

However, most of the growth occurred prior to 1970. The decennial growth rate declined precipitously since 1970—falling from a high of 16.3 percent in the sixties to 3.9 percent in the eighties.

DECENNIAL PERCENTAGE CHANGES IN POPULATION: 1930-1990
NORTHEAST INDIANA, INDIANA, and UNITED STATES

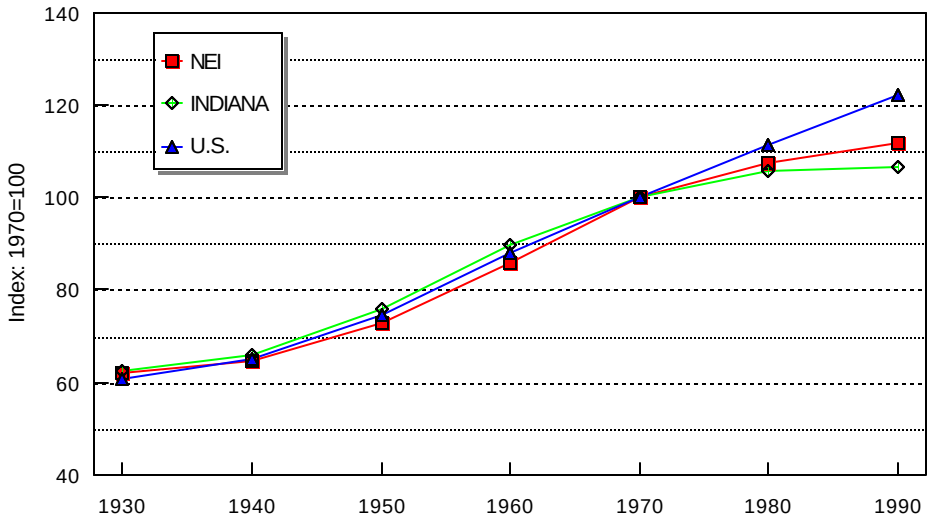


Decade ending in	1930	1940	1950	1960	1970	1980	1990
NEI	9.5%	4.4%	13.0%	17.9%	16.3%	7.6%	3.9%
INDIANA	10.5%	5.8%	14.8%	18.5%	11.4%	5.7%	1.0%
U.S.	16.2%	7.3%	14.5%	18.5%	13.4%	11.4%	9.8%

Source: Decennial Census Publications, U.S. Department of Commerce

Furthermore, population growth in NEI in the eighties and nineties digressed markedly from population growth in the U.S. The U.S. population has been growing approximately one percent per year. NEI's population grew only 3.9 percent for the entire decade of the eighties. Indiana's population grew only one percent during the decade. The marked digressions are better communicated via trend lines.

DECENNIAL POPULATION: 1930-1990
NORTHEAST INDIANA, INDIANA, and UNITED STATES



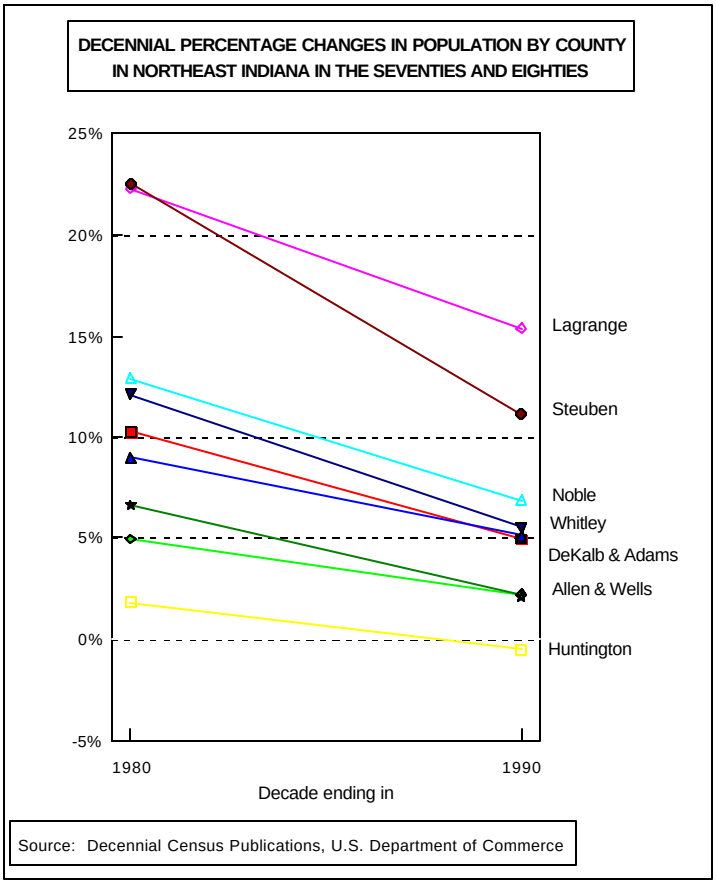
Source: Decennial Census Publications, U.S. Department of Commerce

Northeast Indiana Disaggregated

As just noted, the population growth rates in NEI in the seventies and eighties were markedly below U.S. rates; however, growth was not uniform among the NEI counties. As shown below, the populations in two counties—Lagrange and Steuben—actually grew substantially faster than the U.S. Conversely, Huntington County experienced essentially no growth for the entire twenty years.

County	Pct. Change in Population 1970-1990
Lagrange	41.1
Steuben	36.1
U.S.	**22.3**
Noble	20.7
Whitley	18.2
Adams	15.7
DeKalb	14.6
NEI	**11.8**
Wells	8.9
Allen	7.3
INDIANA	**6.7**
Huntington	1.3

Shown below are the individual decennial growth rates for each county in NEI in the seventies and eighties.



Population growth systematically increased from the southernmost counties in the region to the northernmost counties except for Adams County. Part of the Adams County population includes Amish who tend to have a higher birth rate than the non-Amish population.

Lagrange County also has a significant Amish population. That may be the major reason for its relatively high growth.[8]

Population—Estimated (1990-1999)

Since the 1990 census, the population of NEI is estimated to have increased 7.7 percent, or 42,219 persons, as of July 1999. According to the estimates, NEI continues to outpace Indiana and lag the U.S. in population growth in the nineties. The comparable estimated growth rates for Indiana and the U.S. are 7.2 percent and 9.7 percent, respectively. Estimated population growth by county is as follows:

County	1990 Actual	1999 Estimated	Percentage Increase
Adams	31,095	33,168	6.7%
Allen	300,836	316,471	5.2
DeKalb	35,324	39,683	12.3
Huntington	35,427	37,377	5.5
Lagrange	29,477	33,997	15.3
Noble	37,877	43,241	14.2
Steuben	27,446	31,742	15.7
Wells	25,945	26,810	3.3
Whitley	27,740	30,811	11.4
TOTAL	551,081	593,300	7.7

Source: U.S. Census, U.S. Department of Commerce

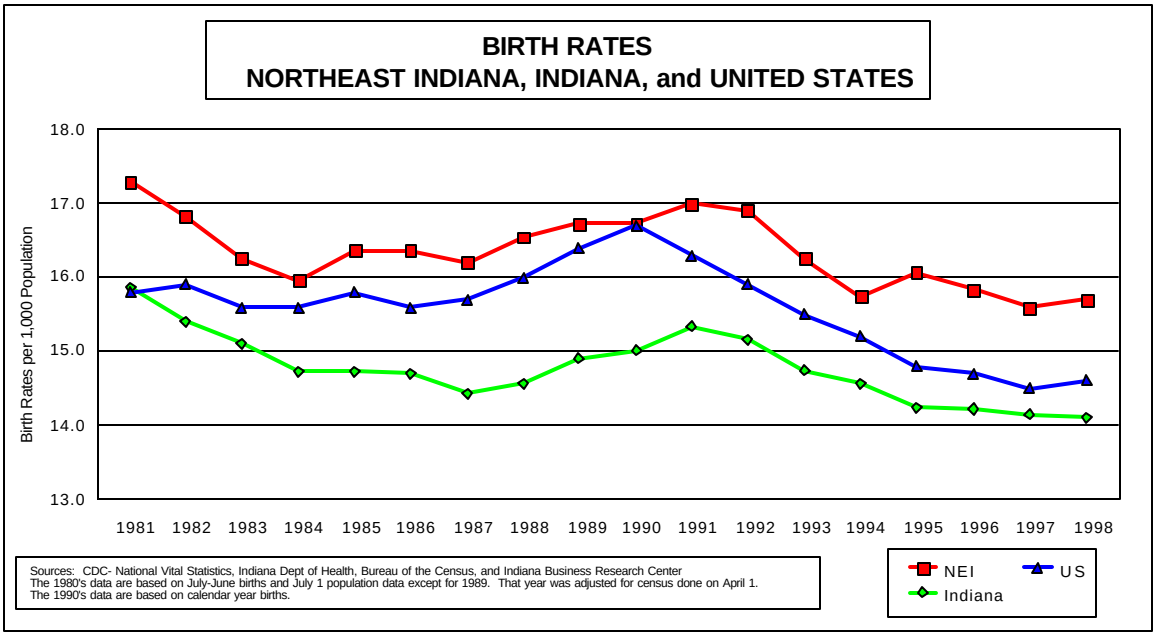
Population Components

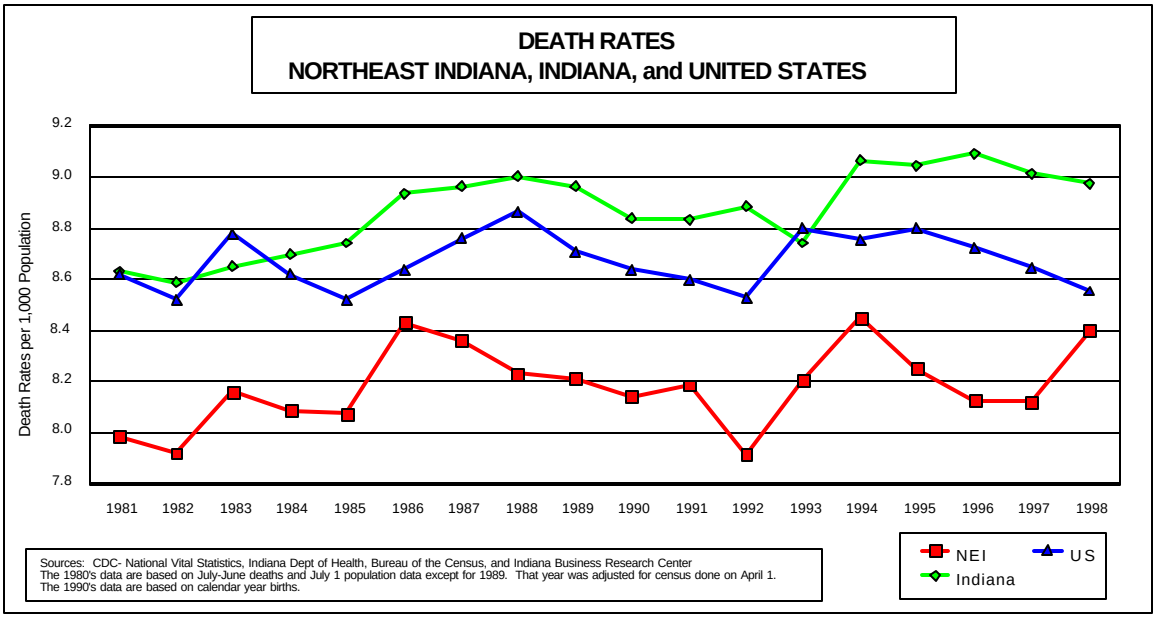
There are three major components of population change: births, deaths, and migration.

Natural Rate of Population Growth

The difference between births and deaths is called the natural rate of population growth. NEI's natural rate of population growth has exceeded both Indiana and the U.S. for the last twenty years. As shown below, NEI's birth rate has been higher and its death rate lower than both Indiana and the U.S.

[8] Allen County has an Amish enclave; however, its population is relatively insignificant compared to the total population of the County.


BIRTH RATES
NORTHEAST INDIANA, INDIANA, and UNITED STATES
Birth Rates per 1,000 Population
18.0
17.0
16.0
15.0
14.0
13.0
1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998
Sources: CDC- National Vital Statistics, Indiana Dept of Health, Bureau of the Census, and Indiana Business Research Center
The 1980's data are based on July-June births and July 1 population data except for 1989. That year was adjusted for census done on April 1.
The 1990's data are based on calendar year births.
NEI
US
Indiana

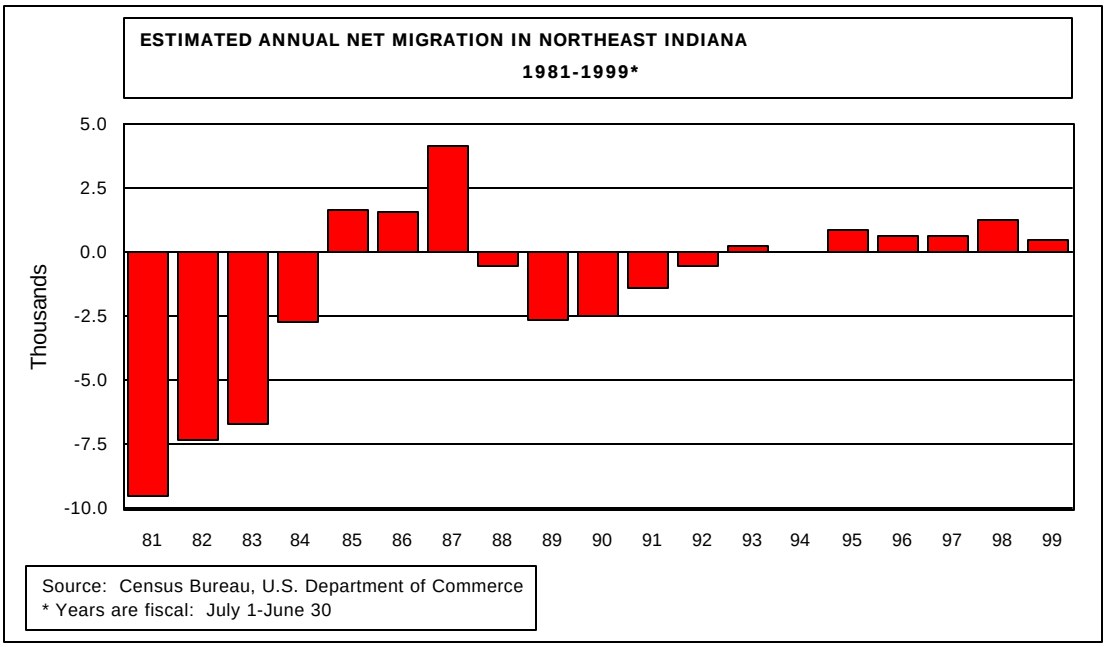

DEATH RATES
NORTHEAST INDIANA, INDIANA, and UNITED STATES
Death Rates per 1,000 Population
9.2
9.0
8.8
8.6
8.4
8.2
8.0
7.8
1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998
Sources: CDC- National Vital Statistics, Indiana Dept of Health, Bureau of the Census, and Indiana Business Research Center
The 1980's data are based on July-June deaths and July 1 population data except for 1989. That year was adjusted for census done on April 1.
The 1990's data are based on calendar year births.
NEI
US
Indiana

Net Migration

As noted above, NEI's population growth has been lower than U.S. population growth. This has occurred despite the fact that NEI's natural rate of population growth has been higher than that of the U.S. The explanation for the diverging trends is migration.

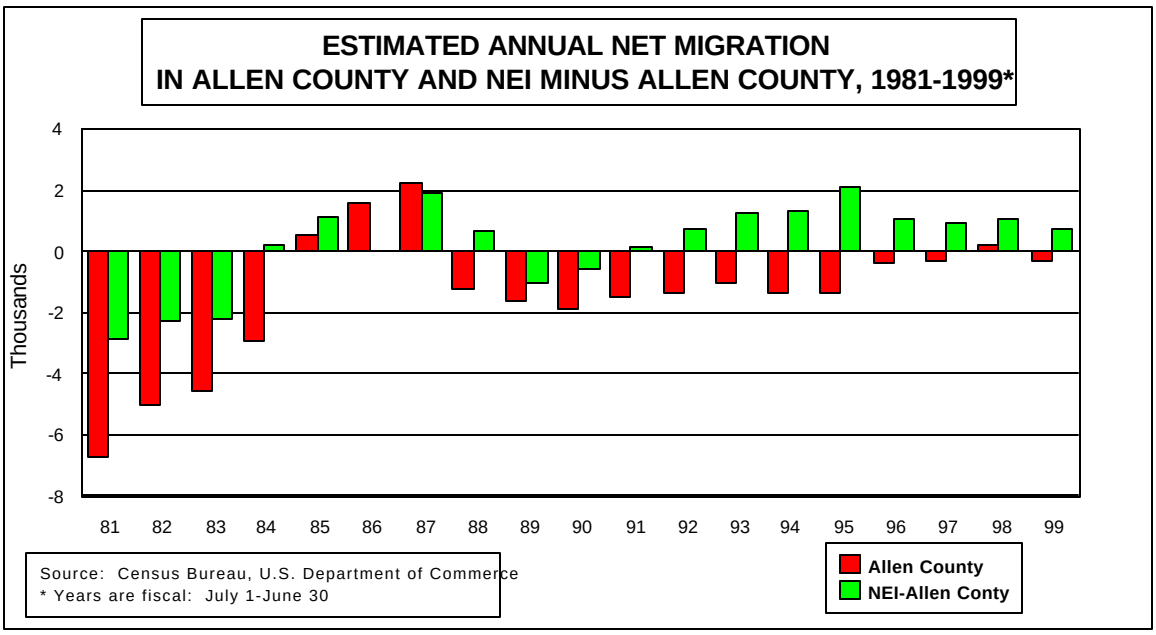
The difference between migration from an area and migration to that area is called net migration. During the eighties NEI experienced substantial negative net migration, especially during the early years. As shown below, in 1981 almost 10,000 more people left NEI than came to NEI. Negative net migration was the primary reason that NEI's population growth in the eighties was only 3.9 percent compared with 9.8 percent for the U.S.

When job opportunities improved in NEI after the rustbelt debacle, the net outflow of people from NEI decreased. In fact, there has been a slight net inflow of people during most of the nineties.



A breakout of estimated net migration shows that Allen County has been the big loser. Both Allen County and the remaining eight counties in NEI experienced similar trends in net migration in the eighties. (See below.) But in the nineties the outlying counties have consistently experienced positive net migration and Allen County has experienced negative net migration.

An unanswered question is to what extent people migrating from Allen County migrated to one of the other eight counties in NEI—e.g., moved from Allen County to "the lake." To the extent that occurred—if it did, the people remained in NEI and there was not a loss (or gain) except to the losing (or gaining) counties.



Domestic Migration Versus International Migration[9]

Net migration statistics can be subdivided into domestic net migration—the difference in the number of U.S. citizens moving to and from one geographical area, and international net migration—the difference between the number of immigrants moving to an area and the number of emigrants from the same area.

From April 1990 to July 1999, NEI had positive net international migration of 3,647 and negative net domestic migration of 1,134. These flows resulted in an overall net positive migration of 2,513.

NORTHEAST INDIANA

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	85,435	44,009	41,426	3,647	-1,134	2,513
Jul 98 to	Jul-99	9,233	4,940	4,293	871	-398	473
Jul 97 to	Jul-98	9,236	4,942	4,294	734	568	1,302
Jul 96 to	Jul-97	9,066	4,919	4,147	506	170	676
Jul 95 to	Jul-96	9,283	4,718	4,565	327	359	686
Jul 94 to	Jul-95	9,242	4,696	4,546	321	564	885
Jul 93 to	Jul-94	9,030	4,871	4,159	239	-166	73
Jul 92 to	Jul-93	9,200	4,730	4,470	229	64	293
Jul 91 to	Jul-92	9,296	4,562	4,734	191	-719	-528
Jul 90 to	Jul-91	9,516	4,530	4,986	195	-1,348	-1,153
Apr 90 to	Jul-90	2,333	1,101	1,232	34	-228	-194

[9] Data are from the Census Bureau, U.S. Department of Commerce

Although NEI estimated net migration turned positive in the nineties, it is a fraction of net international migration to the U.S.[10] Estimated net migration to NEI between the 1990 census and July 1999 was .46 percent of the 1990 population. For the U.S., estimated net international migration was 3.01 percent of the 1990 population.

NEI Disaggregated

The tables below show by county the components of estimated population change in NEI.

ADAMS COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	5,417	2,505	2,912	72	-804	-732
Jul 98 to	Jul-99	574	292	282	22	-152	-130
Jul 97 to	Jul-98	569	276	293	19	-17	2
Jul 96 to	Jul-97	567	292	275	13	-209	-196
Jul 95 to	Jul-96	637	281	356	8	-87	-79
Jul 94 to	Jul-95	628	270	358	3	-9	-6
Jul 93 to	Jul-94	558	278	280	1	149	150
Jul 92 to	Jul-93	551	261	290	12	-112	-100
Jul 91 to	Jul-92	584	235	349	-4	-206	-210
Jul 90 to	Jul-91	610	264	346	-2	-140	-142
Apr 90 to	Jul-90	139	56	83	0	-21	-21

ALLEN COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	46,643	23,085	23,558	2,711	-9,693	-6,982
Jul 98 to	Jul-99	4,977	2,563	2,414	648	-913	-265
Jul 97 to	Jul-98	4,985	2,549	2,436	560	-325	235
Jul 96 to	Jul-97	4,865	2,539	2,326	388	-644	-256
Jul 95 to	Jul-96	4,938	2,467	2,471	221	-581	-360
Jul 94 to	Jul-95	5,007	2,461	2,546	239	-1,531	-1,292
Jul 93 to	Jul-94	4,909	2,534	2,375	187	-1,477	-1,290
Jul 92 to	Jul-93	5,089	2,465	2,624	148	-1,157	-1,009
Jul 91 to	Jul-92	5,229	2,456	2,773	150	-1,426	-1,276
Jul 90 to	Jul-91	5,284	2,454	2,830	148	-1,343	-1,195
Apr 90 to	Jul-90	1,360	597	763	22	-296	-274

DEKALB COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	5,286	2,911	2,375	61	2,031	2,092
Jul 98 to	Jul-99	621	331	290	16	83	99
Jul 97 to	Jul-98	572	338	234	12	127	139
Jul 96 to	Jul-97	613	331	282	1	417	418
Jul 95 to	Jul-96	555	333	222	5	177	182
Jul 94 to	Jul-95	525	332	193	5	154	159
Jul 93 to	Jul-94	579	285	294	-1	245	244
Jul 92 to	Jul-93	566	318	248	10	110	120
Jul 91 to	Jul-92	547	283	264	9	431	440
Jul 90 to	Jul-91	562	293	269	1	230	231
Apr 90 to	Jul-90	146	67	79	3	57	60

[10] For the U.S. as a whole, net international migration is the appropriate figure for comparison with NEI. Within country movements are not relevant.

HUNTINGTON COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	4,729	3,349	1,380	83	610	693
Jul 98 to	Jul-99	497	384	113	11	-29	-18
Jul 97 to	Jul-98	500	379	121	11	12	23
Jul 96 to	Jul-97	490	384	106	4	114	118
Jul 95 to	Jul-96	501	354	147	6	48	54
Jul 94 to	Jul-95	537	348	189	5	209	214
Jul 93 to	Jul-94	511	386	125	13	93	106
Jul 92 to	Jul-93	512	338	174	8	209	217
Jul 91 to	Jul-92	494	360	134	4	-123	-119
Jul 90 to	Jul-91	550	336	214	17	68	85
Apr 90 to	Jul-90	137	80	57	4	9	13

LAGRANGE COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	6,045	1,859	4,186	180	253	433
Jul 98 to	Jul-99	688	185	503	58	56	114
Jul 97 to	Jul-98	674	203	471	27	21	48
Jul 96 to	Jul-97	679	185	494	20	127	147
Jul 95 to	Jul-96	680	213	467	22	-116	-94
Jul 94 to	Jul-95	706	220	486	25	221	246
Jul 93 to	Jul-94	611	210	401	7	65	72
Jul 92 to	Jul-93	613	222	391	9	102	111
Jul 91 to	Jul-92	653	182	471	8	30	38
Jul 90 to	Jul-91	616	200	416	2	-230	-228
Apr 90 to	Jul-90	125	39	86	2	-23	-21

NOBLE COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	6,135	3,156	2,979	354	2,141	2,495
Jul 98 to	Jul-99	687	355	332	86	225	311
Jul 97 to	Jul-98	702	369	333	80	262	342
Jul 96 to	Jul-97	678	357	321	58	113	171
Jul 95 to	Jul-96	707	321	386	39	270	309
Jul 94 to	Jul-95	647	331	316	23	462	485
Jul 93 to	Jul-94	641	372	269	22	306	328
Jul 92 to	Jul-93	648	340	308	11	466	477
Jul 91 to	Jul-92	602	316	286	17	63	80
Jul 90 to	Jul-91	659	316	343	14	-71	-57
Apr 90 to	Jul-90	164	79	85	4	45	49

STEUBEN COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	3,960	2,377	1,583	71	2,708	2,779
Jul 98 to	Jul-99	447	274	173	10	119	129
Jul 97 to	Jul-98	449	285	164	9	249	258
Jul 96 to	Jul-97	441	273	168	3	109	112
Jul 95 to	Jul-96	434	228	206	12	413	425
Jul 94 to	Jul-95	417	253	164	12	696	708
Jul 93 to	Jul-94	466	257	209	6	317	323
Jul 92 to	Jul-93	410	261	149	9	311	320
Jul 91 to	Jul-92	418	247	171	8	354	362
Jul 90 to	Jul-91	414	231	183	3	146	149
Apr 90 to	Jul-90	64	68	-4	-1	-6	-7

WELLS COUNTY

		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	3,391	2,340	1,051	76	-183	-107
Jul 98 to	Jul-99	338	276	62	12	-107	-95
Jul 97 to	Jul-98	365	272	93	7	11	18
Jul 96 to	Jul-97	334	276	58	13	91	104
Jul 95 to	Jul-96	377	249	128	10	9	19
Jul 94 to	Jul-95	371	227	144	7	111	118
Jul 93 to	Jul-94	352	277	75	1	13	14
Jul 92 to	Jul-93	397	272	125	17	-63	-46
Jul 91 to	Jul-92	376	239	137	-1	-78	-79
Jul 90 to	Jul-91	387	193	194	10	-136	-126
Apr 90 to	Jul-90	94	59	35	0	-34	-34

WHITLEY COUNTY

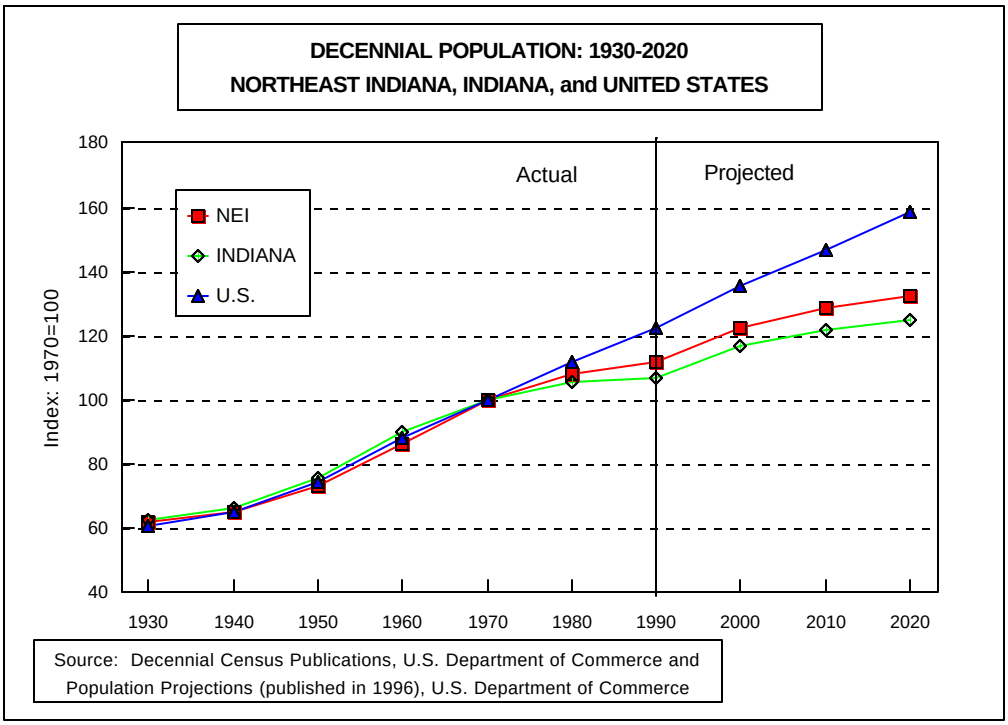
		births	deaths	NATURAL INCREASE	net int. mig	net dom. mig.	NET MIGRATION
Apr 90 to	Jul-99	3,829	2,427	1,402	39	1,803	1,842
Jul 98 to	Jul-99	404	280	124	8	320	328
Jul 97 to	Jul-98	420	271	149	9	228	237
Jul 96 to	Jul-97	399	282	117	6	52	58
Jul 95 to	Jul-96	454	272	182	4	226	230
Jul 94 to	Jul-95	404	254	150	2	251	253
Jul 93 to	Jul-94	403	272	131	3	123	126
Jul 92 to	Jul-93	414	253	161	5	198	203
Jul 91 to	Jul-92	393	244	149	0	236	236
Jul 90 to	Jul-91	434	243	191	2	128	130
Apr 90 to	Jul-90	104	56	48	0	41	41

Population—Projected

Level and Trends

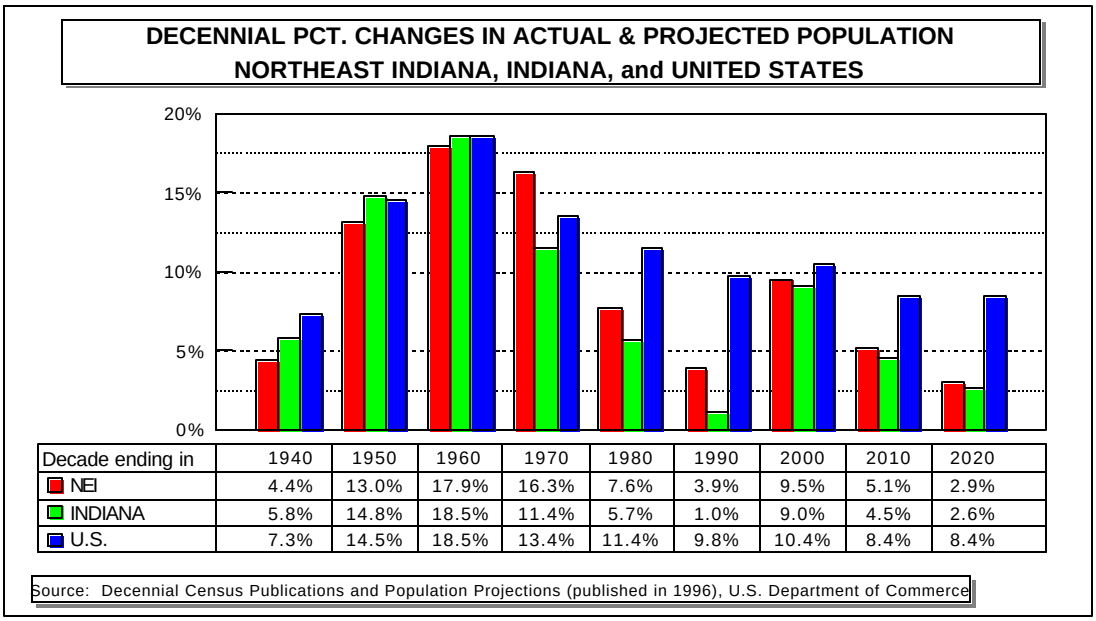
The digression between NEI population growth and U.S. population growth noted above is projected to continue. This is not surprising given that population projections are based largely on historical trends. Population growth in NEI in the seventies and eighties was markedly slower than U.S. population growth.

If the economic conditions that existed in the seventies and eighties change, actual population growth likely will differ from projected growth.[11]



[11] One exception is the 2000 population projection. It is based upon substantial history already, so it likely will not differ markedly from actual.

The chart below shows quantitatively the projected (and past) deterioration in NEI's population growth relative to U.S. population growth. If the projection is realized, NEI population growth from 2010 to 2020 will be below that of the eighties—2.9 percent versus 3.9 percent.



Decade ending in	1940	1950	1960	1970	1980	1990	2000	2010	2020
NEI	4.4%	13.0%	17.9%	16.3%	7.6%	3.9%	9.5%	5.1%	2.9%
INDIANA	5.8%	14.8%	18.5%	11.4%	5.7%	1.0%	9.0%	4.5%	2.6%
U.S.	7.3%	14.5%	18.5%	13.4%	11.4%	9.8%	10.4%	8.4%	8.4%

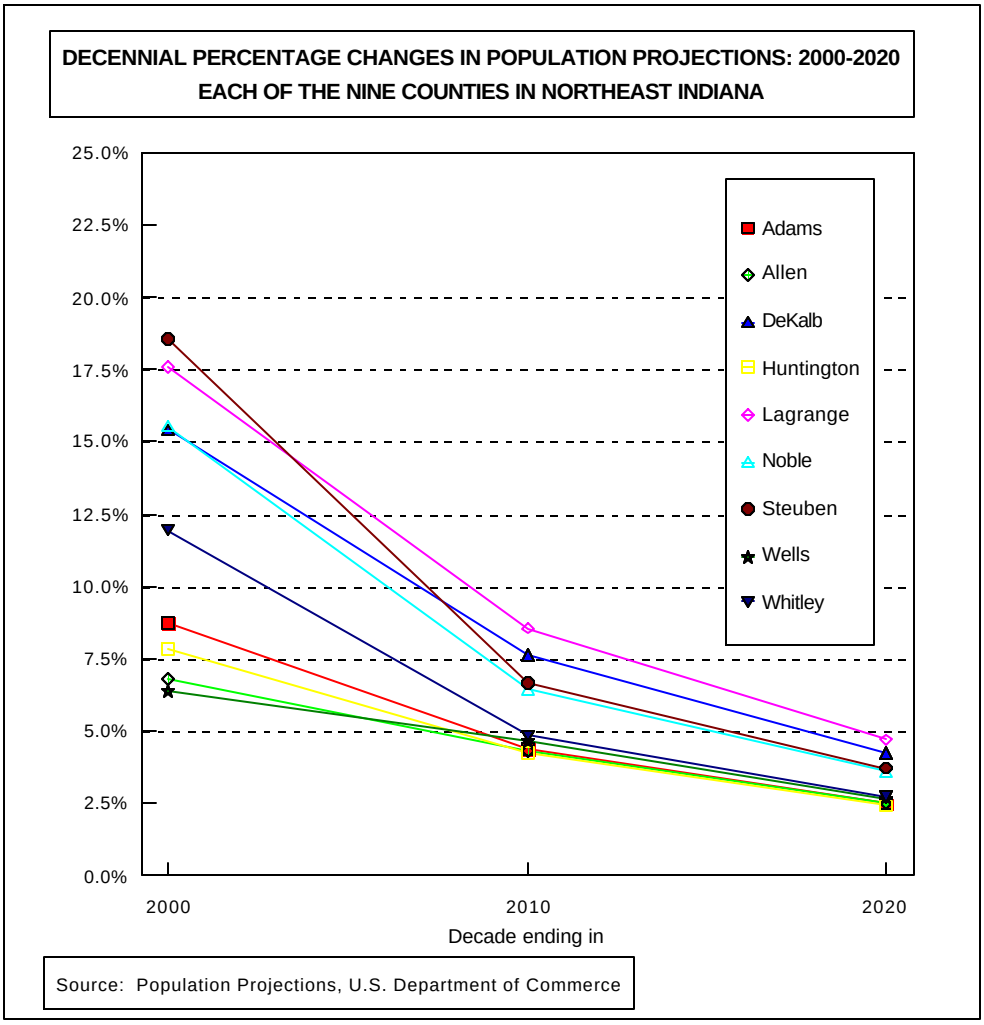
Source: Decennial Census Publications and Population Projections (published in 1996), U.S. Department of Commerce

Northeast Indiana Disaggregated

The disparity in the historical growth rates of the individual counties in NEI in the seventies and eighties is projected to continue through 2020.

County	Pct Change in Projected Population 1990-2020
Lagrange	33.6
Steuben	31.1
U.S.	**29.8**
DeKalb	29.4
Noble	27.4
Whitley	20.5
NEI	**18.4**
INDIANA	**16.9**
Adams	16.3
Huntington	15.1
Wells	14.2
Allen	14.2

But by 2020, the growth rates among the counties will have converged markedly if projections are realized.



Population—Summary

Disaggregated NEI population as of the 1990 census, 1999 estimated, and 2020 projected is as follows:

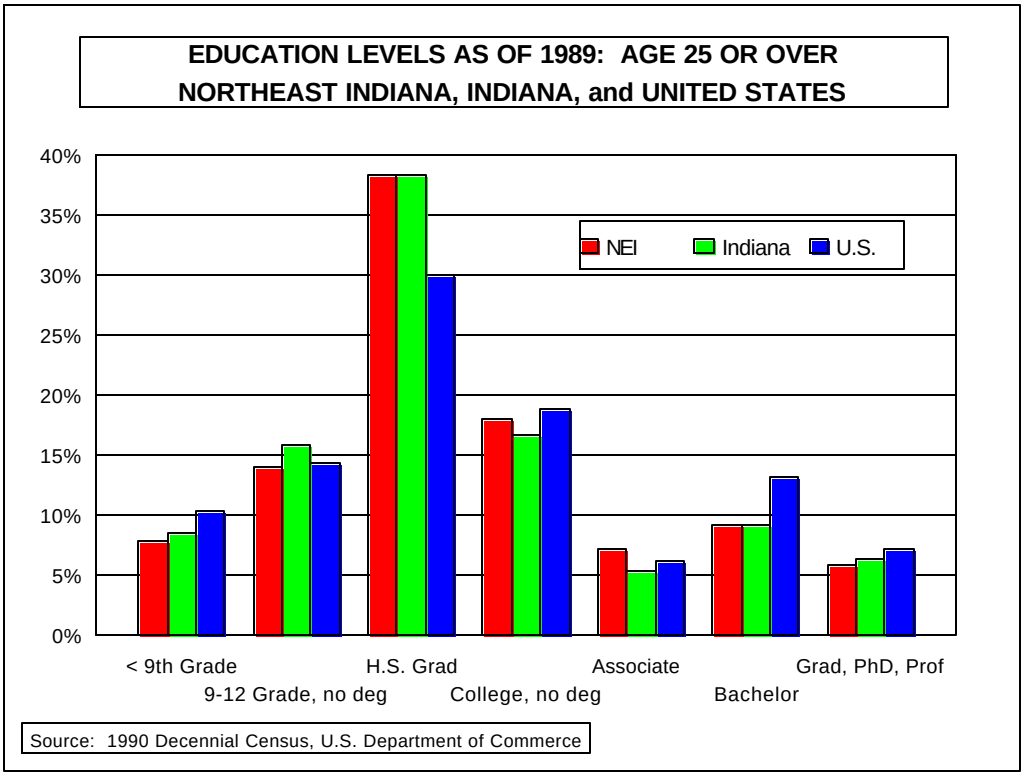
County	1990 Actual	1999 Estimated	2020 Projected
Adams	31,095	33,168	36,154
Allen	300,836	316,471	343,414
DeKalb	35,324	39,683	45,716
Huntington	35,427	37,377	40.783
Lagrange	29,477	33,997	39,373
Noble	37,877	43,241	48,260
Steuben	27,446	31,742	35,989
Wells	25,945	26,810	29,645
Whitley	27,740	30,811	33,312
TOTAL	551,081	593,300	652,646

Education

The principal way of increasing the level of human capital is education.

Level

Over 38 percent of NEI (and Indiana) residents 25 or over had graduated from high school as their terminal degree as of 1989.[12] That was approximately eight percentage points above the average for the U.S. However, NEI is approximately five percentage points below the U.S. average in terms of baccalaureate degree or higher graduates.



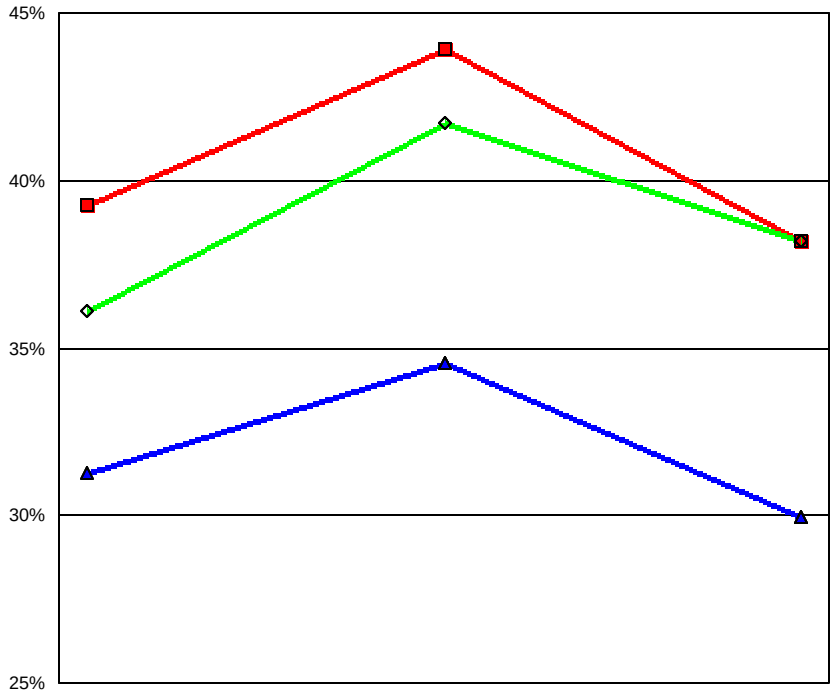
In summary, NEI's population is well educated relative to the U.S. population but not highly educated relative to the U.S. This statement is better illustrated by viewing the data differently.

[12] The census (in this case, the 1990 census) measures education as of the previous year (in this case, 1989).

High School Graduates—Level and Trend

The chart below shows the percentage of the population of NEI, Indiana, and the U.S. having a high school education as a terminal degree as of 1969, 1979, and 1989. NEI has consistently exceeded the U.S. in the percentage of its population having a high school education (as a terminal degree). The differential has been approximately 8 percentage points for the last 20 years.

PERCENTAGE OF HIGH SCHOOL GRADUATES: 1969-1989
NORTHEAST INDIANA, INDIANA, and UNITED STATES



	1969	1979	1989
NEI	39.3%	43.9%	38.2%
Indiana	36.1%	41.7%	38.2%
U.S.	31.3%	34.6%	30.0%

SOURCE: Decennial Census Publications, U.S. Dept. of Commerce
Applicable to the 25 or over population as of the year prior to the census.

High School Graduates—NEI Disaggregated

The percentage of high school graduates among the nine counties in NEI varies markedly. There are two distinct groups. As of 1989, Allen and Lagrange counties were 33.4 and 34.3 percent, respectively; whereas the remaining seven counties were in the 44-47 percent range.

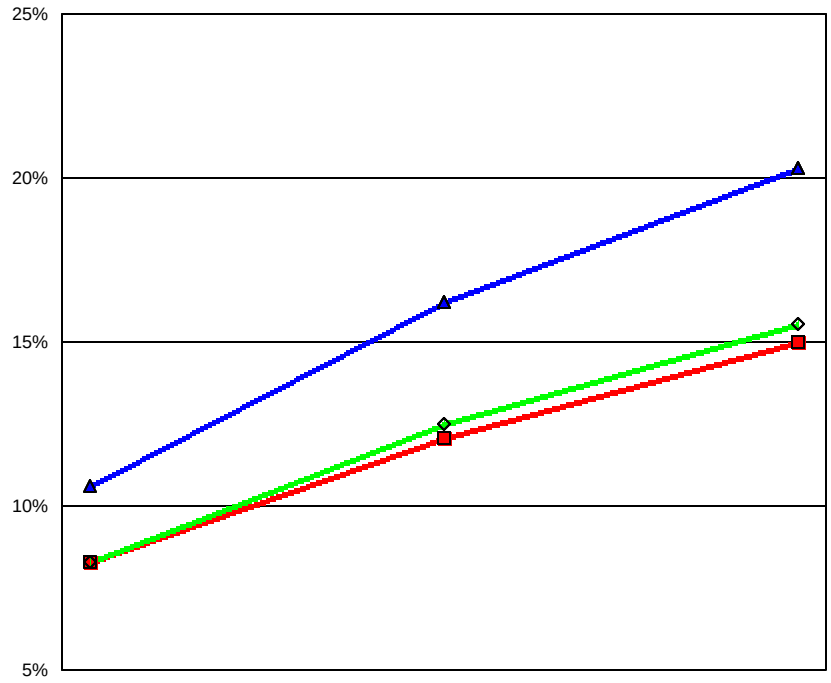
COMPARISON OVER TIME OF THE PERCENTAGE OF POPULATION 25 OR OVER IN NEI WITH HIGH SCHOOL DIPLOMA AS A TERMINAL DEGREE

	1969	1979	1989
Adams	41.3	47.4	45.2
Allen	37.6	41.2	33.4
DeKalb	41.2	48.8	46.6
Huntington	43.3	49.3	45.6
Lagrange	32.9	37.0	34.3
Noble	40.3	44.9	44.2
Steuben	42.2	48.7	44.0
Wells	42.5	48.6	46.0
Whitley	45.8	52.4	45.0
NEI	39.3	43.9	38.2
Indiana	36.1	41.7	38.2
U.S.	31.3	34.6	30.0
Illinois			30.0
Michigan			32.3
Ohio			36.3
Wisconsin			37.1

College Graduates—Level and Trend

A higher percentage of high school graduates in NEI relative to the U.S. necessitates a lower percentage of less and/or more highly educated people. Most of the differential results from a lower percentage of more highly educated people. As of 1989, NEI had 5.3 percentage points fewer college graduates or higher than the U.S. Indiana also lagged the U.S. level. Furthermore, the gaps between the U.S., and NEI and Indiana have more than doubled in the last twenty years. For example, for NEI the differential was 2.3 percentage points in 1969.

PERCENTAGE OF COLLEGE GRADUATES OR HIGHER: 1969-1989
NORTHEAST INDIANA, INDIANA, and UNITED STATES



	1969	1979	1989
NEI	8.3%	12.1%	15.0%
Indiana	8.3%	12.5%	15.6%
U.S.	10.6%	16.2%	20.3%

SOURCE: Decennial Census Publications, U.S. Dept. of Commerce
Applicable to the 25 or over population as of the year prior to the census.

College Graduates or Higher—NEI Disaggregated

In the analysis above of high school graduates by county, it was noted that Allen and Lagrange counties were more than ten percentage points below the remaining seven counties in terms of high school graduates (as a terminal degree). The table below shows that the reason Allen County was relatively low in high school graduates is that it is relatively high in college graduates or higher—the highest among the nine NEI counties. Conversely, Lagrange County is the lowest of the nine counties in percentage of college graduates or higher.

COMPARISON OF THE PERCENTAGE OF COLLEGE GRADUATES OR HIGHER IN NEI OVER TIME

	1969	1979	1989
Adams	4.2	8.5	10.7
Allen	10.2	15.0	19.0
DeKalb	5.0	8.5	9.9
Huntington	7.3	10.2	11.8
Lagrange	4.7	6.9	7.3
Noble	5.2	7.3	8.0
Steuben	8.8	9.7	12.5
Wells	6.2	8.9	12.1
Whitley	5.5	7.2	8.8
Northeast Indiana	8.3	12.1	15.0
Indiana	8.3	12.5	15.6
United States	10.6	16.2	20.3
Illinois			21.0
Michigan			17.4
Ohio			17.0
Wisconsin			17.7

Northeast Indiana Disaggregated

The distribution of education as of 1989 in each of the nine counties in NEI is shown below. Note the relative low level of education in Lagrange County. As of 1989, 43.4 percent had not graduated from high school versus only 21.8 percent for all of NEI (which includes Lagrange County).[13]

TERMINAL EDUCATION LEVELS (IN PERCENT) AS OF 1989: AGE 25 OR OVER

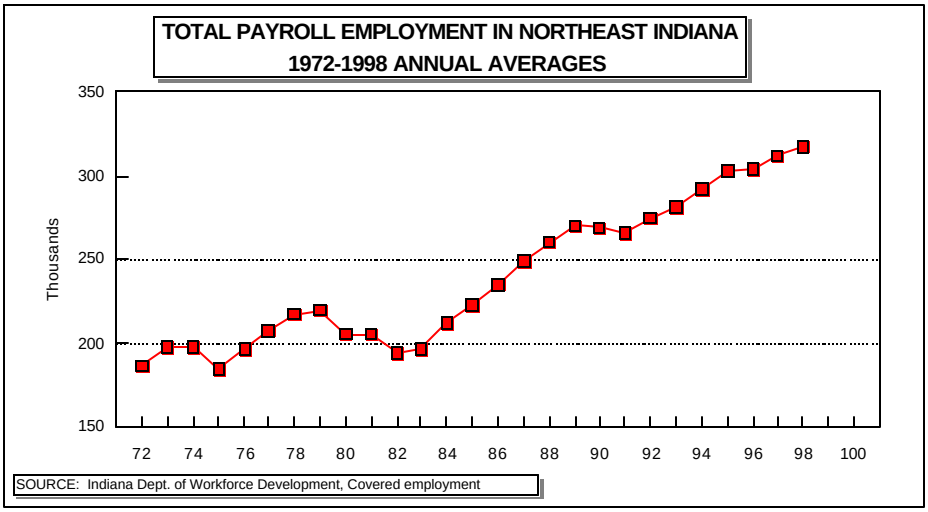
	Less than 9th Grade	9-12th Grade, No Dip.	High School Graduate	Some College, No Deg.	Associate Degree	Bachelor Degree	Grad., Ph.D., or Prof. Degree
Adams	11.7	13.9	45.2	13.1	5.4	5.8	4.9
Allen	6.3	12.6	33.5	20.3	8.4	12.1	6.9
DeKalb	7.3	15.2	46.6	15.3	5.7	5.4	4.5
Huntington	6.2	15.2	45.6	16.0	5.2	6.9	4.8
Lagrange	23.2	20.2	34.3	11.3	3.8	3.9	3.5
Noble	10.2	17.8	44.2	15.2	4.6	4.5	3.6
Steuben	6.2	14.8	44.0	16.4	6.1	7.0	5.4
Wells	6.7	14.3	46.0	14.5	6.5	6.5	5.6
Whitley	7.4	13.7	45.0	18.0	7.1	4.5	4.2
NEI	7.8	14.0	38.2	18.0	7.1	9.2	5.8
INDIANA	8.5	15.8	38.2	16.6	5.3	9.2	6.4
U.S.	10.4	14.4	30.0	18.7	6.2	13.1	7.2
Illinois	10.3	13.5	30.0	19.4	5.8	13.6	7.5
Michigan	7.8	15.5	32.3	20.4	6.7	10.9	6.4
Ohio	7.9	16.4	36.3	17.0	5.3	11.1	5.9
Wisconsin	9.5	11.9	37.1	16.7	7.1	12.1	5.6

[13] As noted previously, Lagrange County has a significant contingent of Amish. Amish children typically do not attend high school.

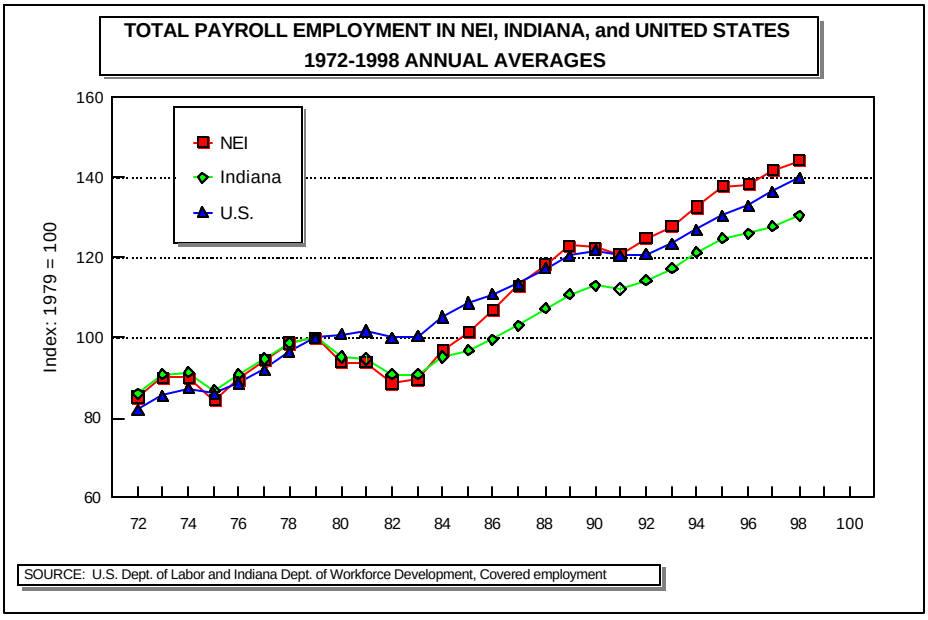
EMPLOYMENT

Level and Trend

Payroll employment in NEI totaled 316,760 as of 1998. It increased almost 70 percent since 1972.[14]



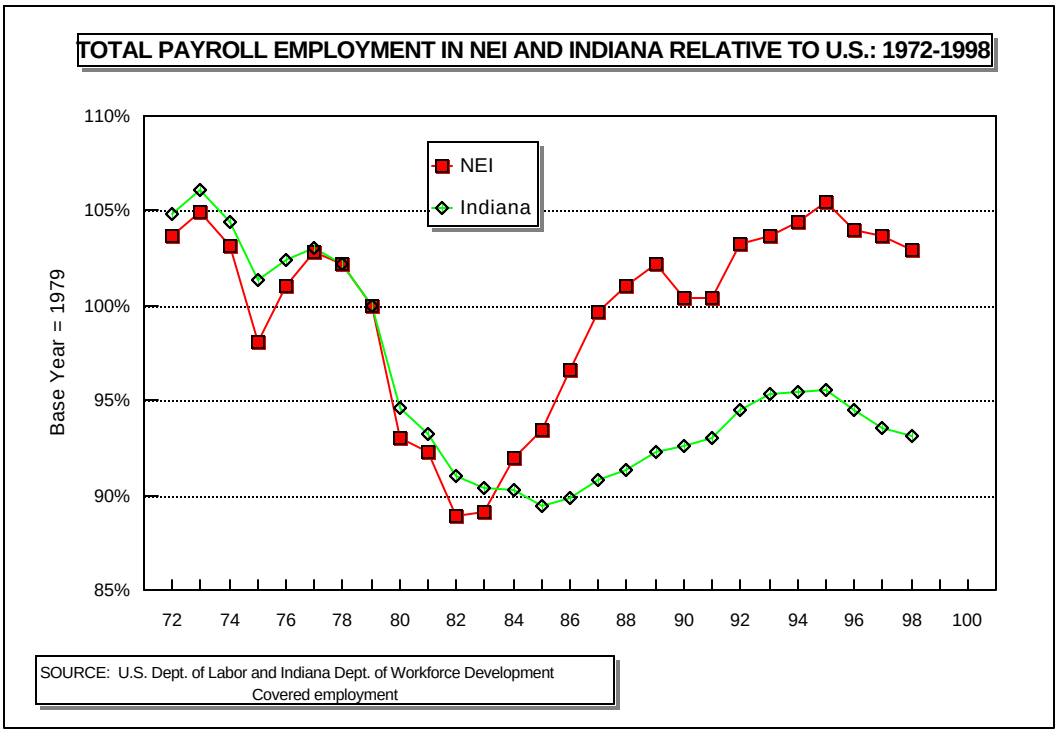
The chart below shows employment trends in NEI, Indiana, and the U.S. The starting point for comparison purposes is 1979, the start of the rustbelt debacle.[15] The principal conclusion to be drawn is that NEI has recovered fully from the debacle—at least in terms of number of jobs. In fact, NEI's employment growth as of 1998 was slightly higher than that of the U.S.



[14] In 1972 there was a significant change in the data series, so it is a more appropriate year from which to start the series (than 1970).

[15] In the chart employment levels in the three geographical areas were set equal to an index of 100 in 1979.

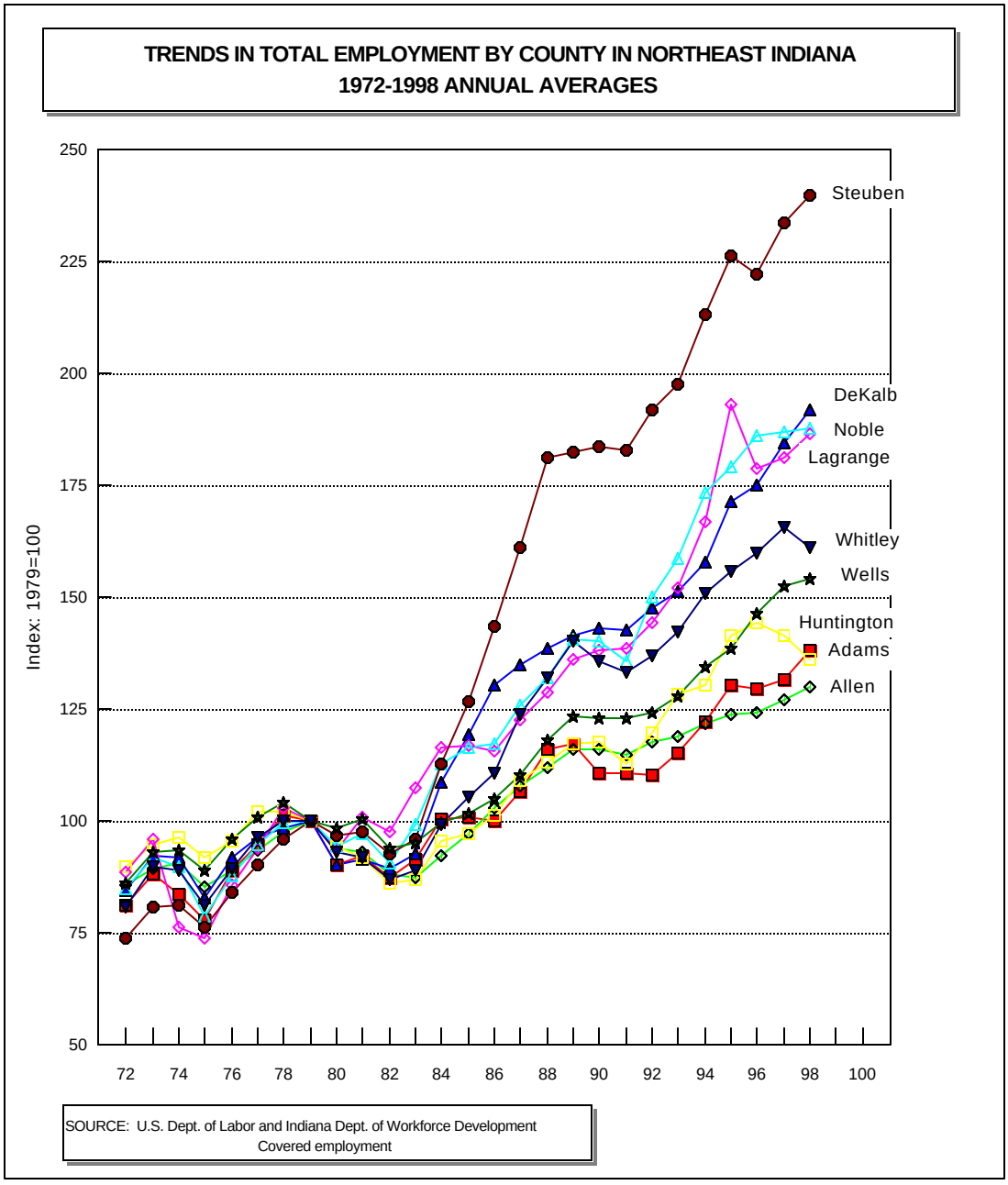
However, NEI took a more circuitous—and more painful—route to reach its current level of success. In only four years, employment in NEI (and Indiana) fell over ten percentage points relative to U.S. employment. (See below.) But by 1995, NEI employment had grown over five percentage points more than U.S. employment (using 1979 as the base year). Conversely, Indiana as a whole has yet to recover completely from the rustbelt debacle. NEI markedly outperformed the Indiana economy in the eighties.[16]



[16] NEI is included in Indiana. If it were removed, the differential between NEI and Indiana would have been even greater.

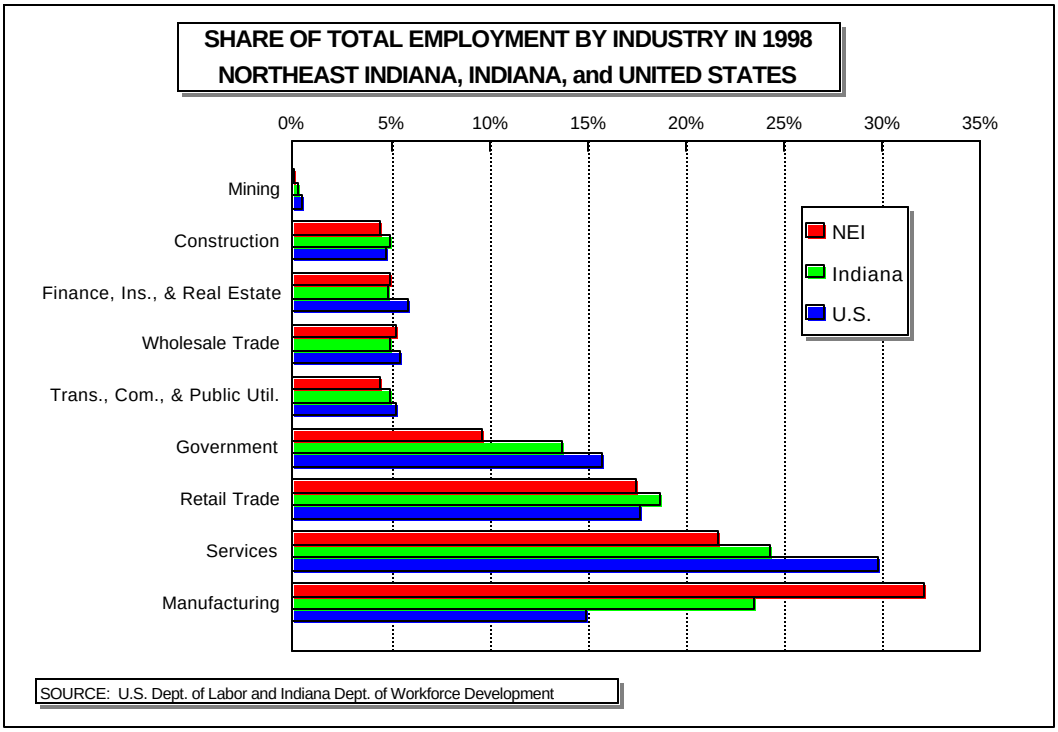
NEI Total Employment Disaggregated

NEI counties experienced markedly different employment growth between 1979 and 1998. Allen County, with the largest employment base, experienced the least percentage growth, and Steuben County far outpaced all other eight counties in percentage employment growth.



By Sector

Shown below is the composition of employment among major sectors of the NEI, Indiana, and U.S. economies as of 1998. The major differences between NEI and the U.S. economy are that NEI has over twice the percentage of jobs in manufacturing as does the U.S.—32.1 percent versus 14.9 percent, respectively. Conversely, NEI is markedly underrepresented in services—minus 8.1 percentage points—and government—minus 6.2 percentage points—employment.



The distribution of employment in each of the nine counties among all sectors as of 1998 is shown below.

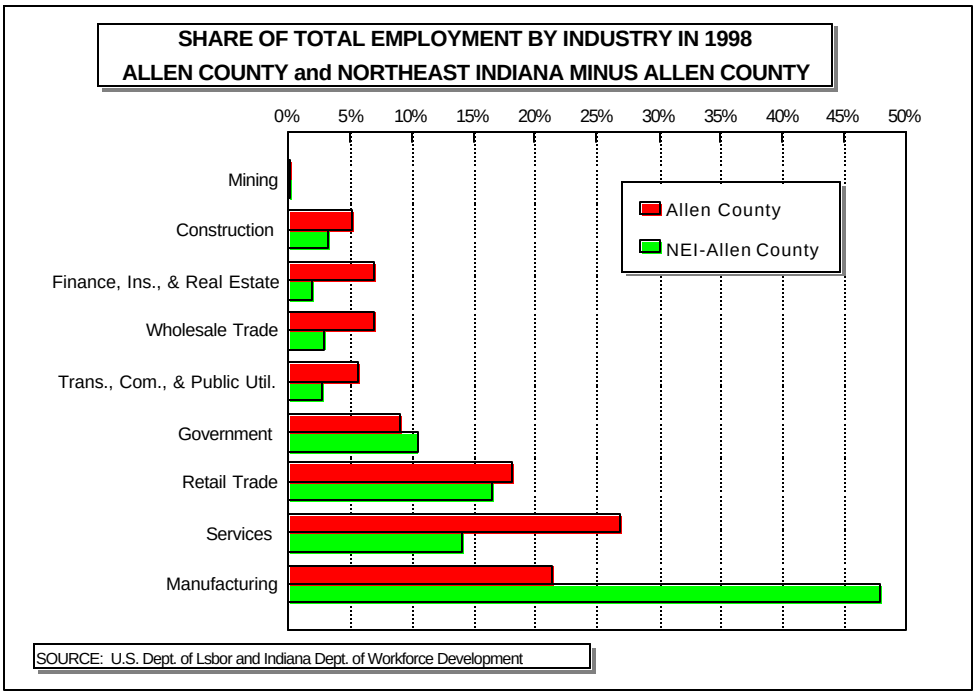
Industry	Adams	Allen	DeKalb	Hunt'on	Lagrange	Noble	Steuben	Wells	Whitley
Mining	0.2	0.1	0.4	0.4	0.1	0.0	0.0	0.0	0.0
Construction	3.0	5.2	3.4	3.3	2.9	2.9	3.6	3.1	3.7
FIRE*	1.9	6.9	1.6	2.8	2.4	1.5	1.6	2.3	2.4
Whsle. Trade	2.5	6.9	2.2	2.9	4.9	1.8	3.1	3.6	2.7
Trans., Com. & Pub. Utilities	1.7	5.7	2.2	2.3	1.1	2.2	5.7	3.9	2.1
Government	12.5	9.0	8.4	11.5	9.9	10.2	8.5	13.4	11.5
Retail Trade	18.1	18.1	12.3	18.3	16.4	11.7	19.9	23.5	17.0
Services	10.8	26.8	14.4	15.2	13.8	12.3	13.6	19.1	15.5
Manufacturing	49.2	21.4	55.0	43.3	48.4	57.4	44.0	31.2	45.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*FIRE = Finance, Insurance, and Real Estate

Manufacturing

Obvious from the county level data is that manufacturing dominates employment outside Allen County. As shown below, Allen County has just over 21 percent manufacturing employment, but the remaining eight counties have 48 percent of their employment in manufacturing.

Allen County—the core county—provides many services—e.g., medical and legal—to the outlying counties. Allen County has approximately twice the percentage of its jobs in services as do the remaining eight counties. Also, it has a markedly higher percentage of jobs in wholesale trade, finance, insurance and real estate, and transportation, communication and public utilities.



NEI Manufacturing Disaggregated

Among the eight outlying counties in NEI, the percentage of manufacturing employment varies markedly—from a high of 57.4 percent in Noble County to a low of 31.2 percent in Wells County.

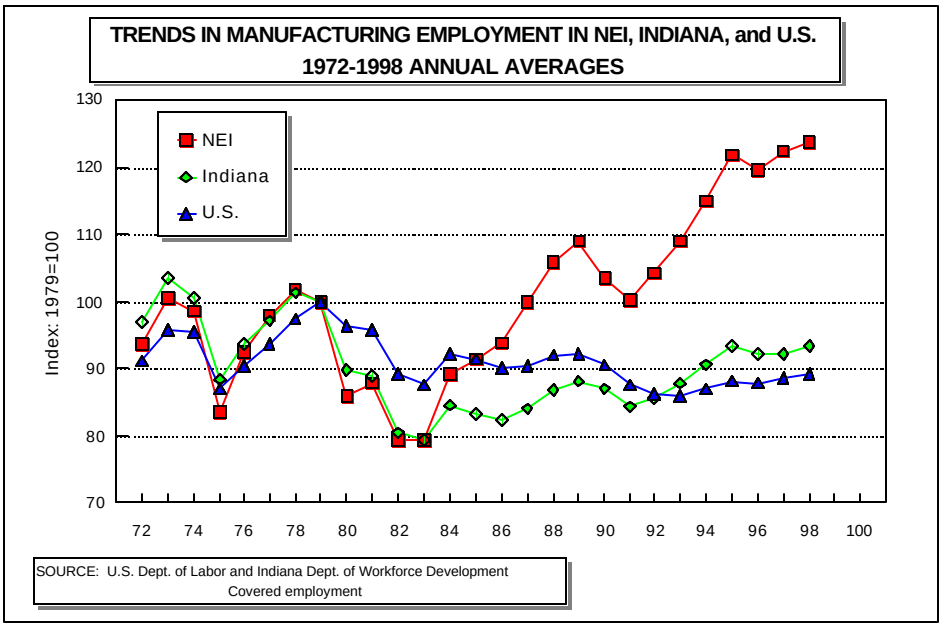
County	Pct. Mfg. In 1998
Noble	57.4
DeKalb	55.0
Adams	49.2
Lagrange	48.4
Whitley	45.0
Steuben	44.0
Huntington	43.3
Wells	31.2
Allen	21.4
NEI	32.1

Trends

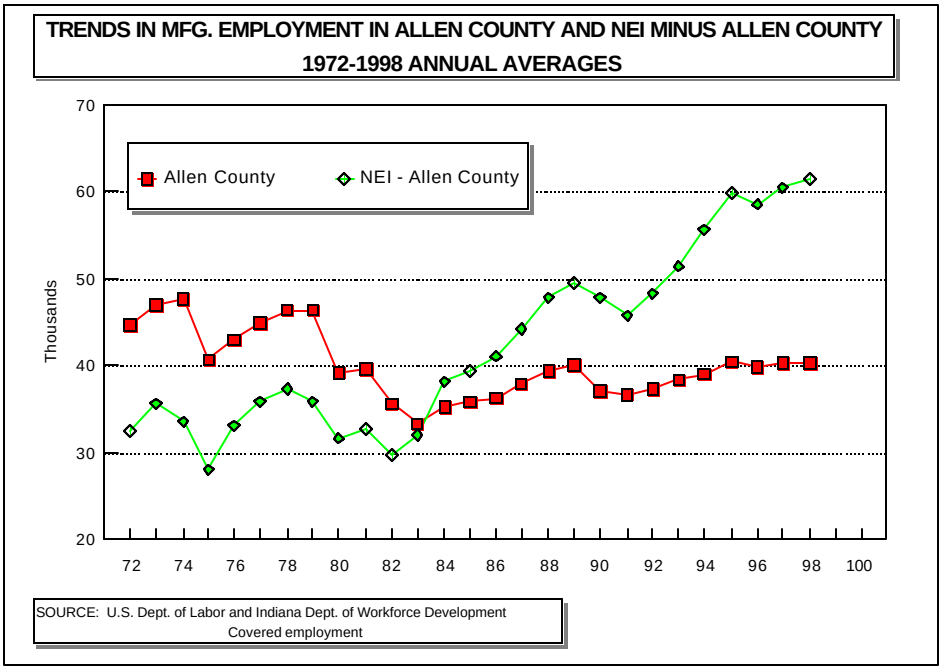
Following is an analysis of employment trends in NEI among the major sectors.

Manufacturing

As noted above, manufacturing employment accounted for approximately a third of all jobs in NEI as of 1998. Furthermore, the number of jobs in manufacturing increased over 20 percent since 1979 as contrasted with the U.S. and Indiana as a whole where manufacturing jobs decreased approximately 10 percent.

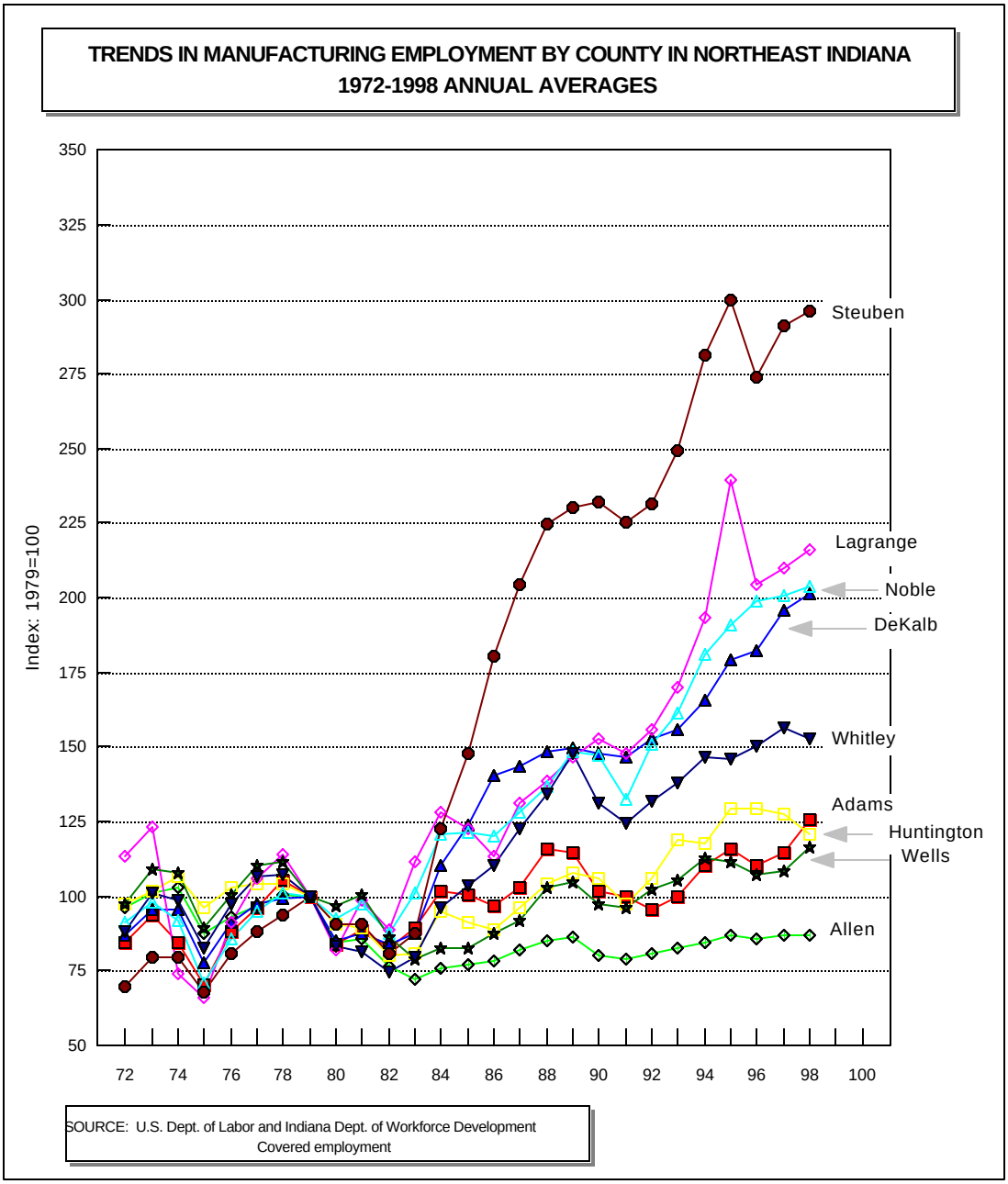


But the growth in manufacturing employment in NEI since 1979 occurred solely outside Allen County. Manufacturing employment in Allen County actually decreased approximately 6,000.



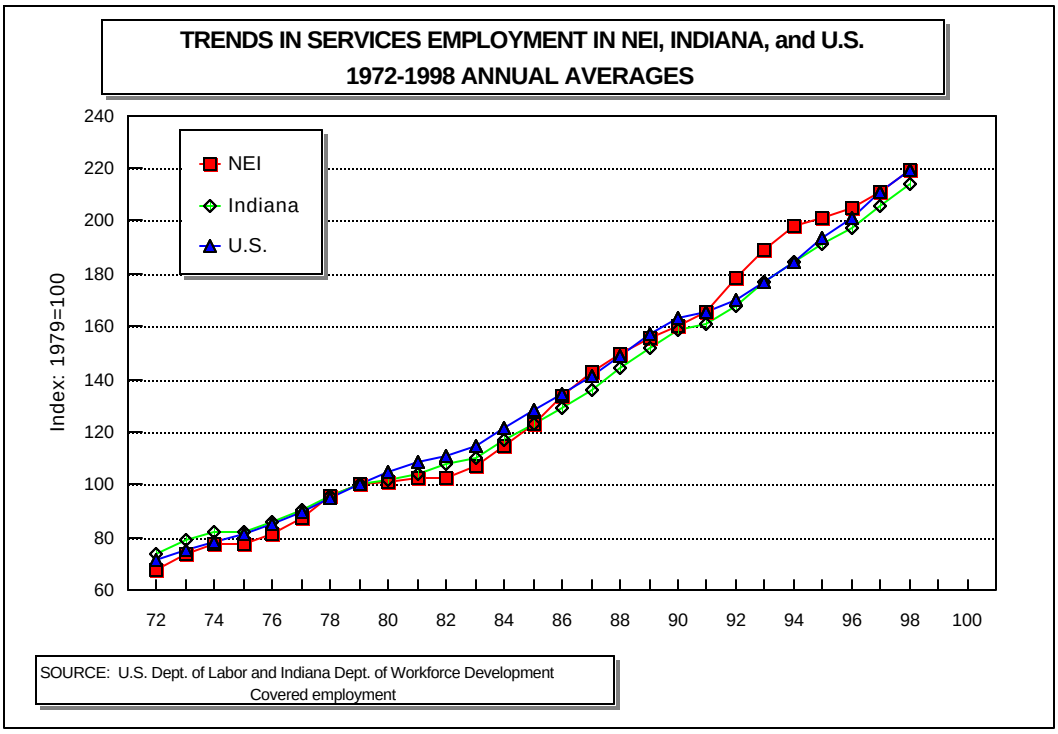
NEI Manufacturing Employment Trend Disaggregated

As shown below, the growth in manufacturing employment among the eight outlying counties in NEI varied markedly since 1979. Manufacturing employment in Steuben County grew almost 200 percent versus an approximately 25 percent increase in Adams, Huntington, and Wells counties.



Services

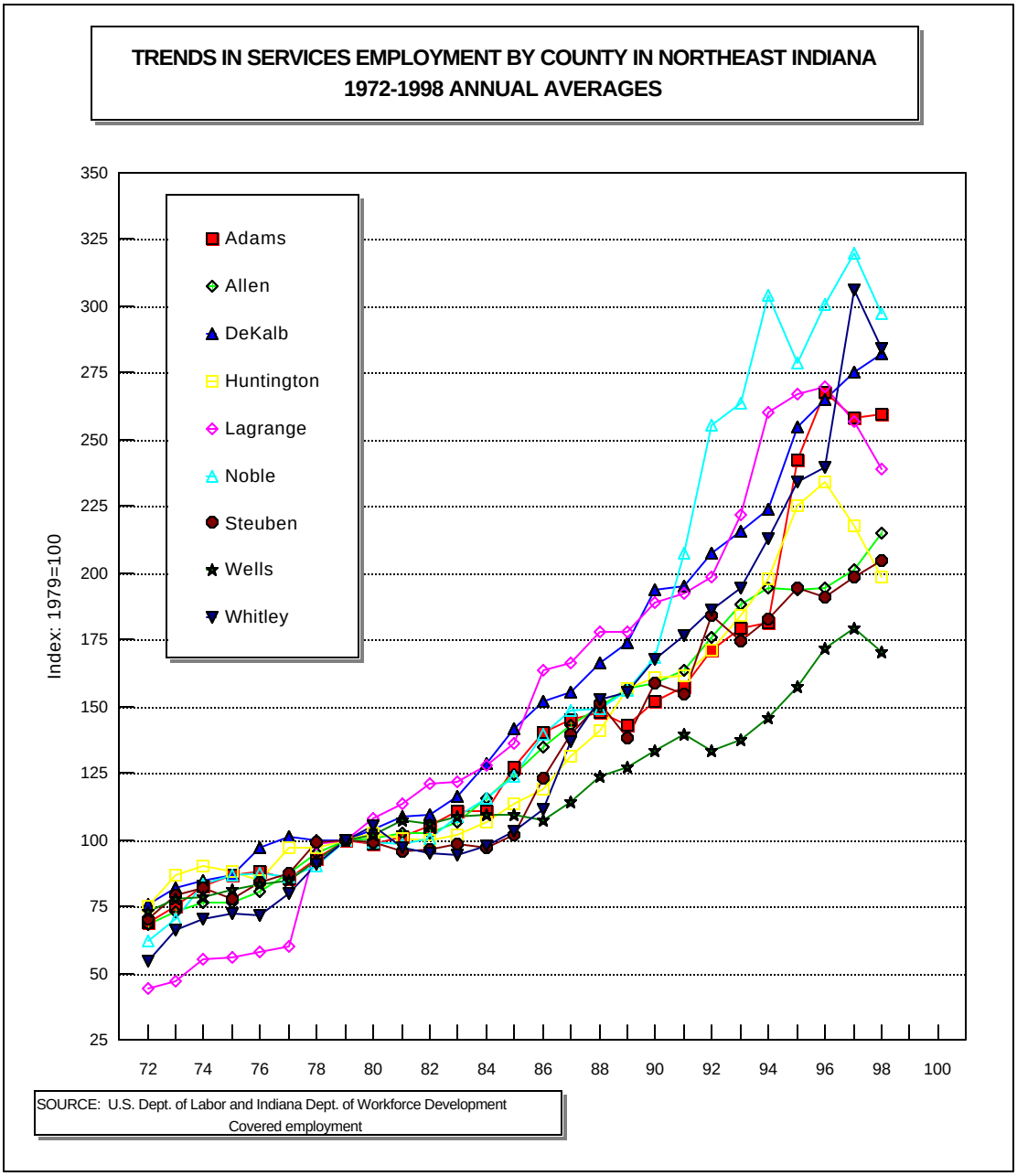
Services employment has grown dramatically. Since 1979, services employment in NEI has grown approximately 120 percent.



However, it was noted previously that NEI is underrepresented in services employment relative to the U.S by approximately eight percentage points—22 percent versus 30 percent, respectively. What the chart above shows is that NEI's under representation in services employment relative to the U.S. has not changed markedly since 1979. NEI consistently has been underrepresented in services employment.

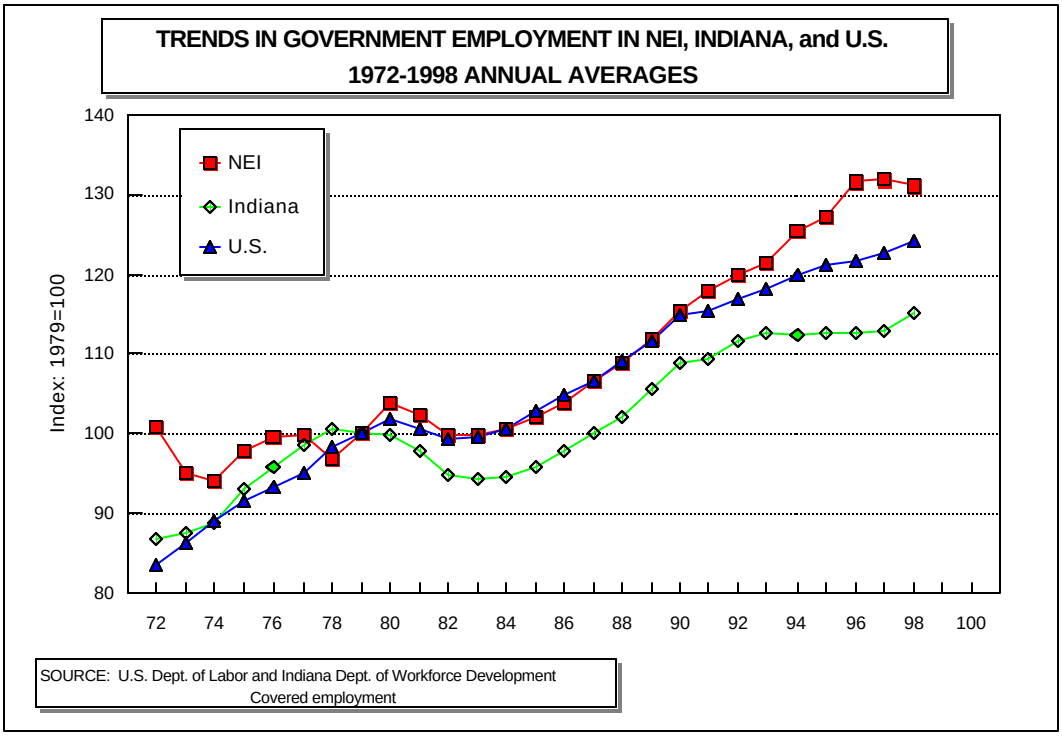
NEI Services Employment Trend Disaggregated

The chart below shows the trend in services employment by individual county. Noble County services employment increased almost 200 percent, Whitley and DeKalb counties more than 175 percent, and Adams County more than 150 percent.



Government

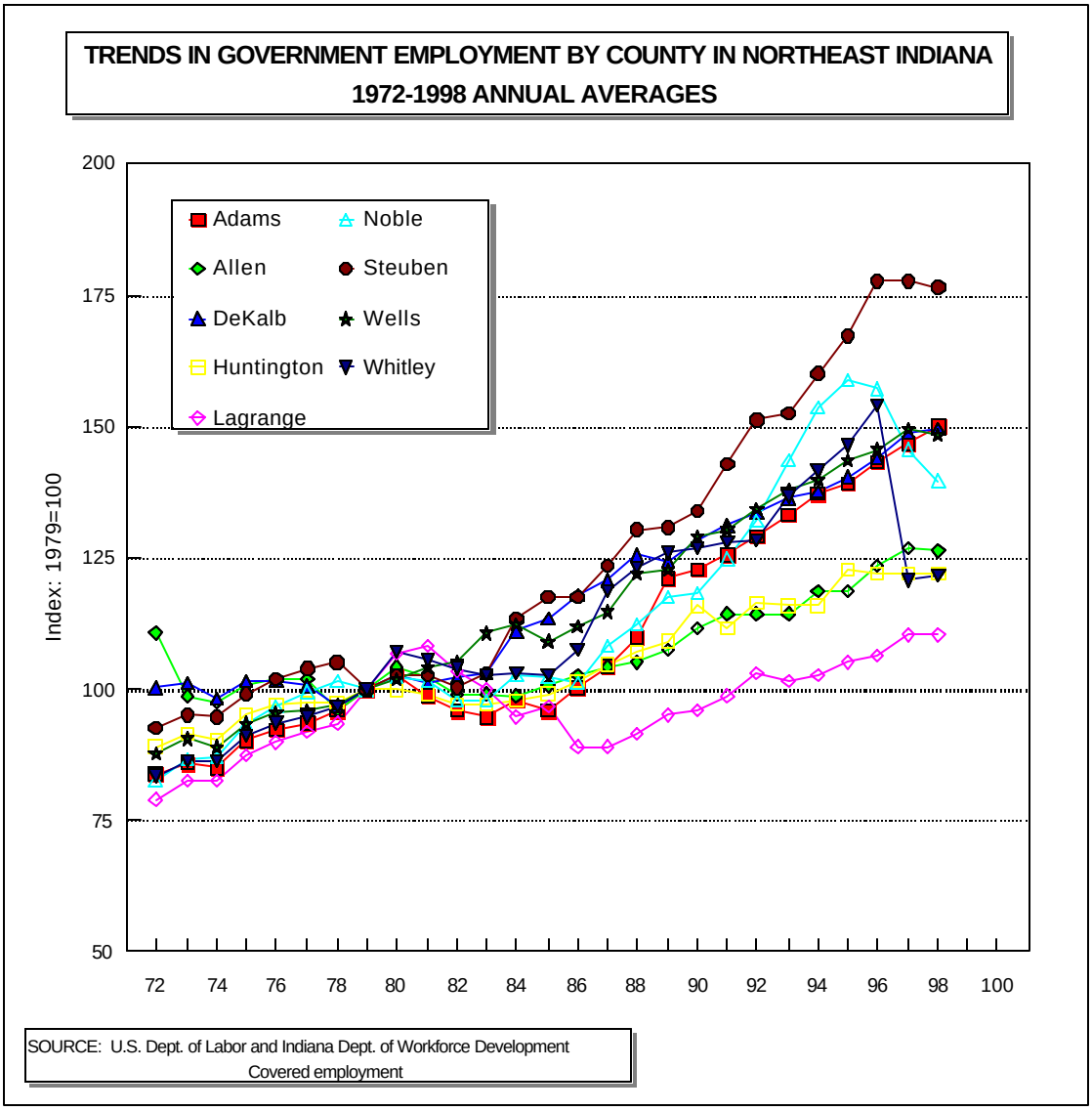
In addition to services employment, NEI has been markedly underrepresented in government employment relative to the U.S. However, in contrast with services employment, NEI has reduced the under representation slightly since 1979. That is, government employment in NEI has increased more than U.S. government employment. Conversely, government employment in Indiana has increased less than U.S. government employment growth since 1979.[17]



[17] One of the major factors affecting government employment has been the downsizing of the military—and related government employment—since the end of the Cold War. Thus, the growth of NEI government employment *relative* to the U.S. may be due more to the shrinking of defense related employment outside NEI than to growth in NEI. NEI has had no military establishments of significance in terms of employment.

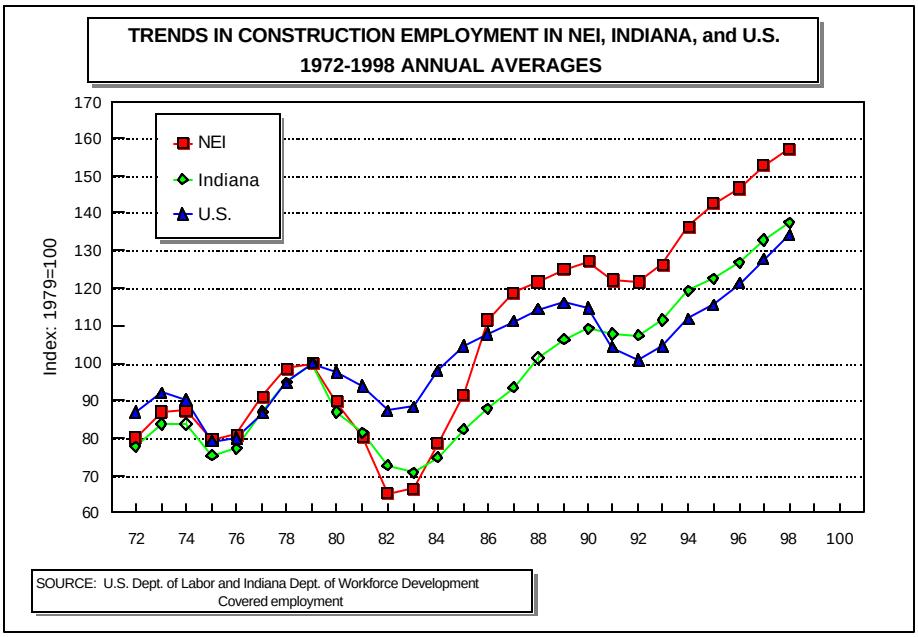
NEI Government Employment Trend Disaggregated

On an individual county basis, government employment between 1979 and 1998 grew the most in Steuben County—76.5 percent—and the least in Allen County—10.4 percent.



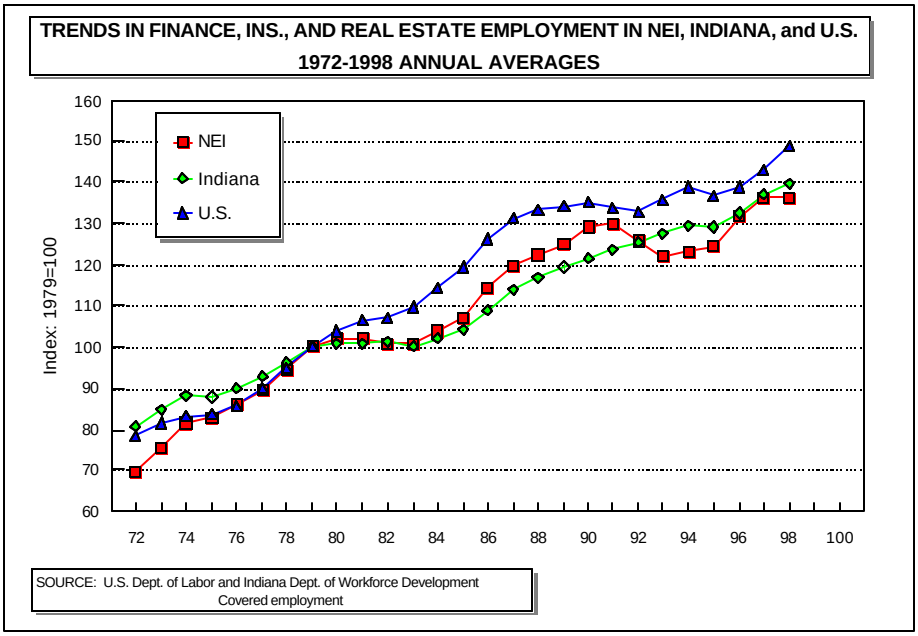
Construction

Consistent with the strong manufacturing employment growth in NEI relative to the U.S. since the rustbelt debacle, construction employment growth in NEI has outpaced U.S. construction employment growth. That is, much of the manufacturing employment growth noted above occurred in newly constructed facilities.



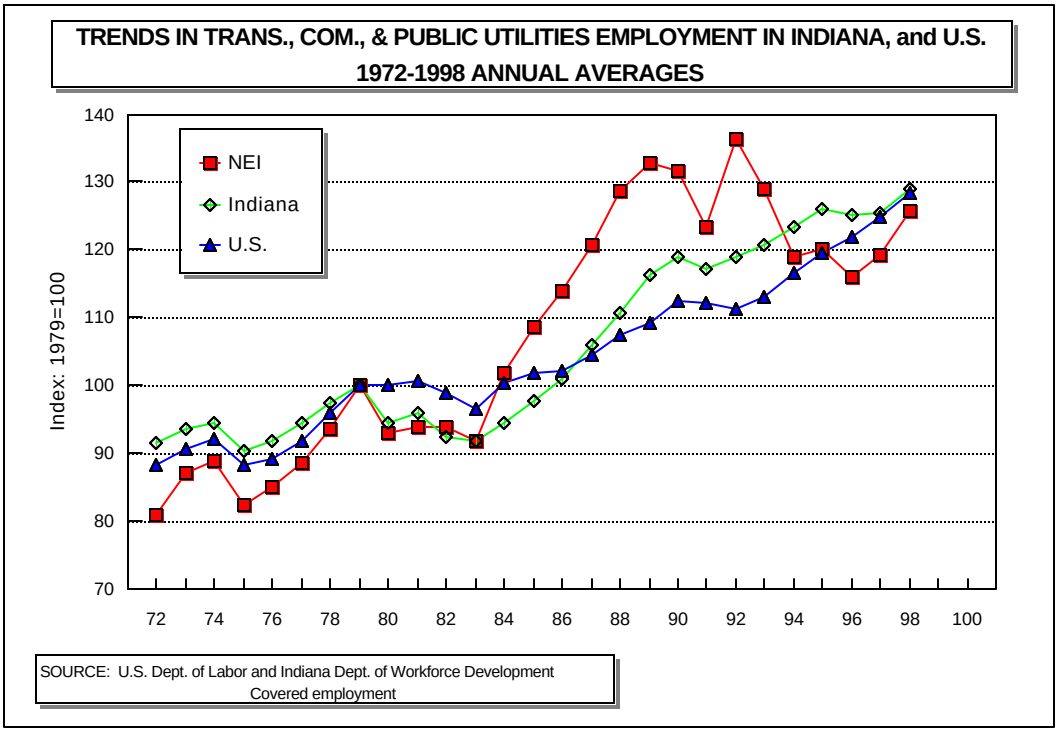
Finance, Insurance, and Real Estate

Since 1979 finance, insurance, and real estate employment growth in NEI has lagged same sector employment growth in the U.S. Probably one contributor to this underperformance is the consolidation of the banking sector which has resulted in all the major Fort Wayne based banks being purchased during the period. Many jobs were lost as a result of consolidation of operations after the mergers.



Transportation, Communication, and Public Utilities

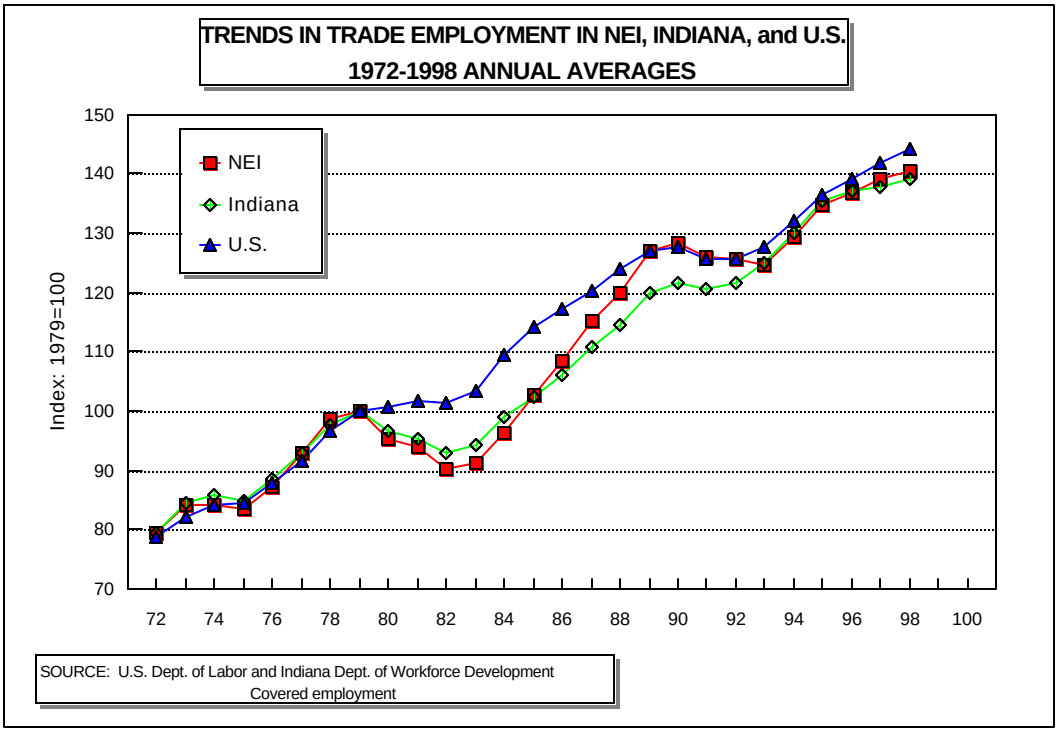
Growth in transportation, communication, and public utilities employment since 1979 in NEI and the U.S. has been comparable. In the eighties there was an unexplained bulge in employment.



Trade[18]

Growth in trade employment since 1979 in NEI and the U.S. has been comparable. During and after the rustbelt debacle, NEI trade employment lagged U.S. trade employment, but it had largely recovered by 1998.

[18] Trade includes both wholesale and retail. Prior to 1998, some trade data were not separated into the two types, therefore, separate comparisons since 1972 are not possible.



NET EARNINGS[19]

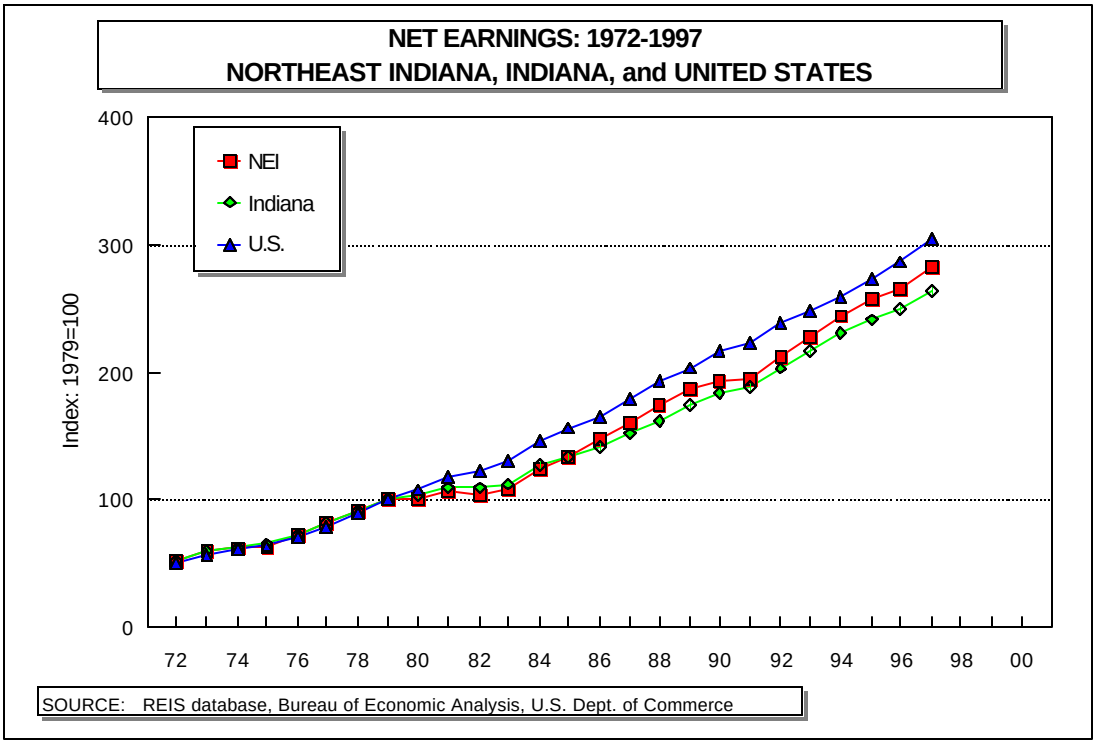
Employed human capital produces earnings. Net (current dollar) earnings in NEI increased 447 percent between 1972 and 1997, from $1.83 billion to $10.01 billion, respectively. Allen County decreased two percentage points in dominance during the period.

NET EARNINGS (in thousands) IN NEI BY COUNTY: 1972 and 1997

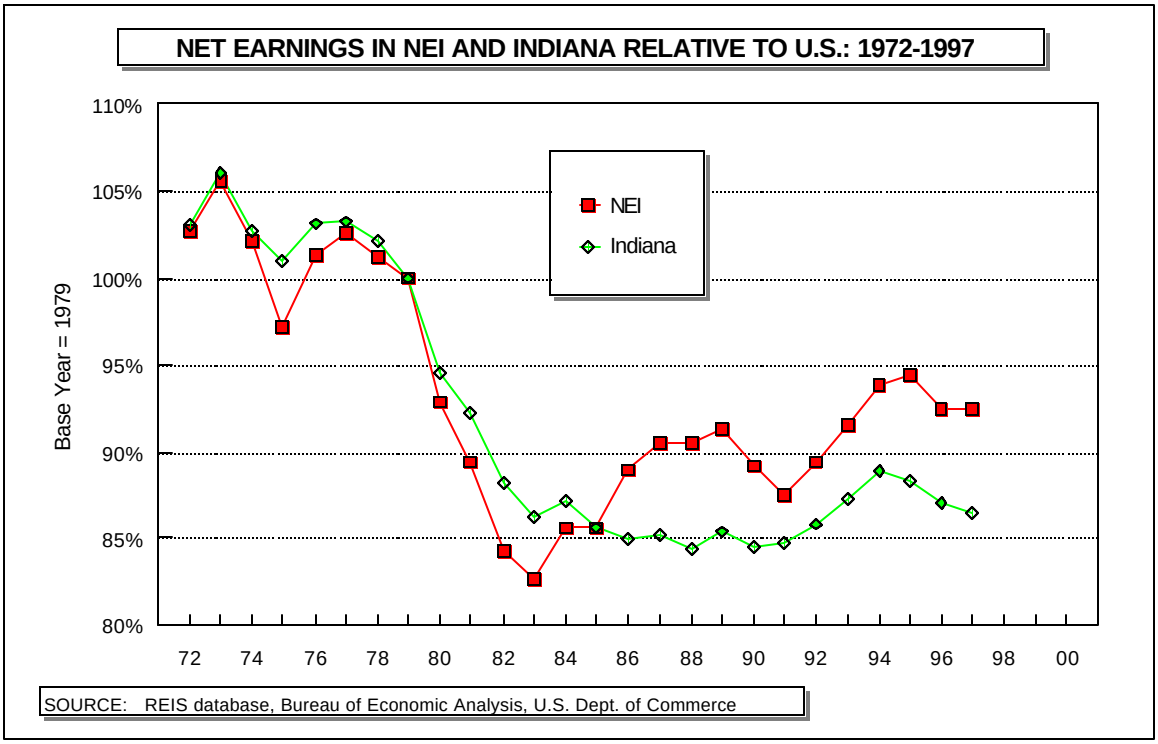
	1972			1997	
	Total	Percent		Total	Percent
Adams	$97,042	5.3%		$486,578	4.9%
Allen	1,093,253	59.7%		5,774,587	57.7%
DeKalb	106,315	5.8%		632,329	6.3%
Huntington	118,335	6.5%		568,245	5.7%
Lagrange	69,971	3.8%		424,418	4.2%
Noble	108,163	5.9%		666,335	6.7%
Steuben	65,168	3.6%		487,788	4.9%
Wells	88,419	4.8%		460,822	4.6%
Whitley	83,504	4.6%		509,155	5.1%
TOTAL	$1,830,170	100.0%		$10,010,257	100.0%

[19] Net earnings are earnings minus the employees' share of social security payments. For employees receiving "regular" paychecks, the social security payments are automatically withheld from their paychecks.

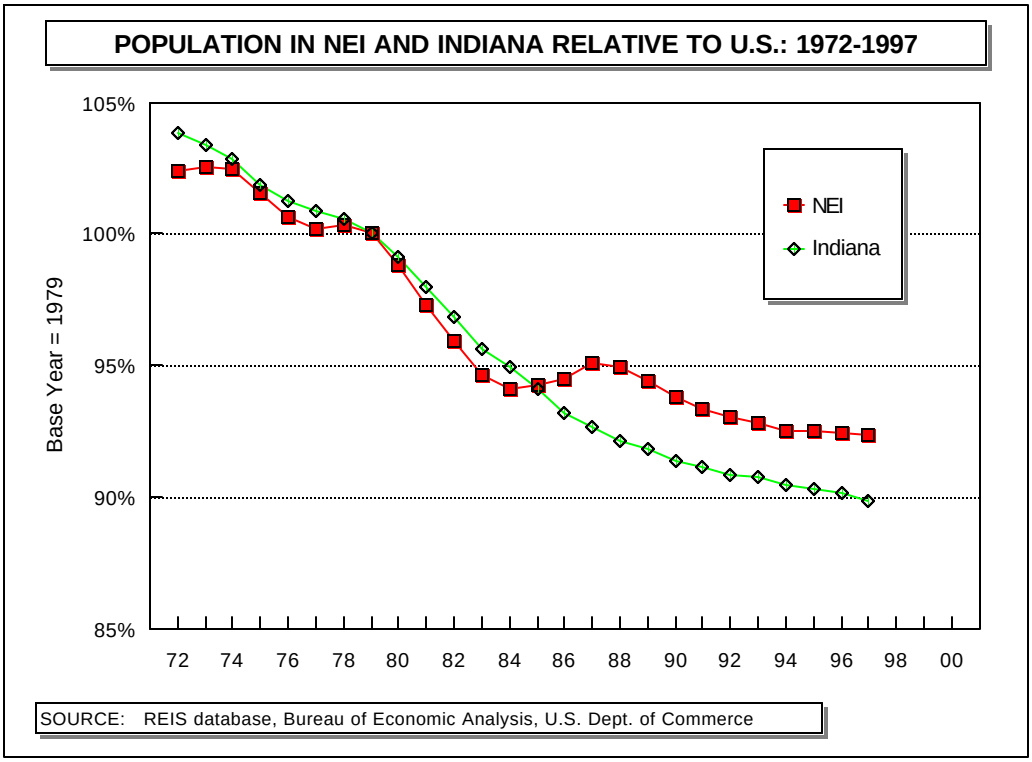
However, as shown below, NEI net earnings growth did not keep pace with U.S. growth.



Specifically, net earnings in NEI deteriorated 7.6 percentage points relative to U.S. earnings between 1979 and 1997, and net earnings in Indiana deteriorated 13.5 percentage points.



One obvious reason for the deterioration in earnings in NEI relative to earnings in the U.S. between 1979 and 1997 was the relatively slower growth of NEI's population. The deteriorations were almost equal.[20] NEI's population deteriorated 7.7 percentage points compared with 7.6 percentage points for net earnings. For Indiana, population deteriorated 10.2 percentage points compared with 13.5 percentage points for net earnings.



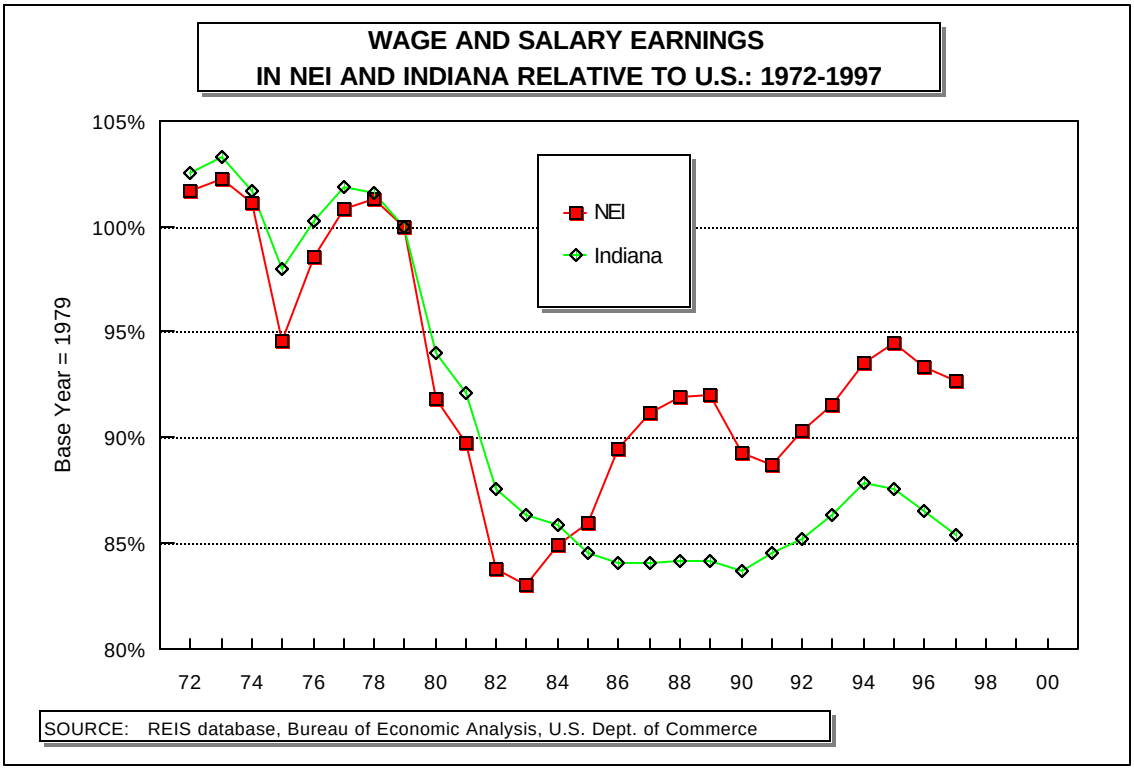
Wage and Salary Earnings

Wage and salary earnings constitute the major portion of net earnings.[21] For example, wage and salary earnings in NEI totaled $8.87 billion in 1997—88.6 percent of net earnings.

Not surprisingly, the decrease in wage and salary earnings in NEI relative to the U.S. has been essentially the same as the relative decrease in net earnings—7.3 percent to 7.6 percent, respectively. (See below.) Indiana's wage and salary earnings fell 14.6 percentage points compared to the U.S. versus a 13.5 percentage point decrease in net earnings.

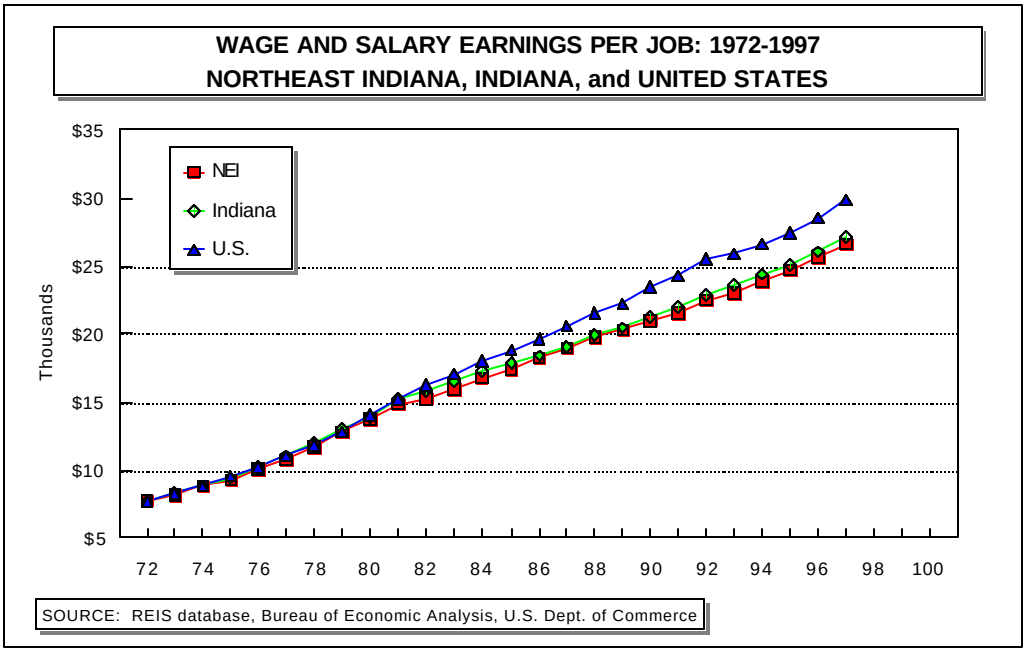
Like net earnings, the deterioration in wage and salary earnings in NEI relative to the U.S. was consistent with the relatively slower population growth in NEI.

[20] For census years the population data are essentially identical to the decennial census population data previously presented in the study. The population data for other years were estimated.
[21] Proprietors' income and other labor income are the other portions.

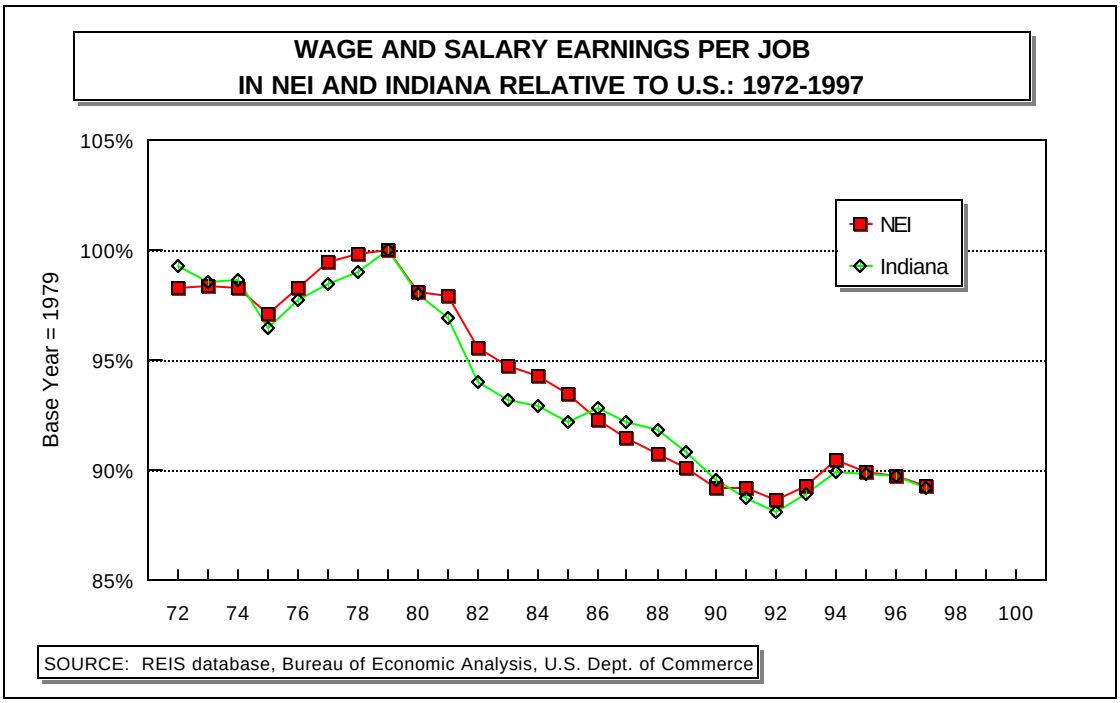


Wage and Salary Earnings Per Job

However, wage and salary earnings per job in NEI also declined dramatically relative to changes in wage and salary earnings per job in the U.S. In 1979 earnings per job in NEI and the U.S. were the same—$12,817 and $12,814, respectively. By 1997 a $3,200 gap had developed between the two. Earnings per job in NEI were $26,614 versus $29,814 for the U.S.

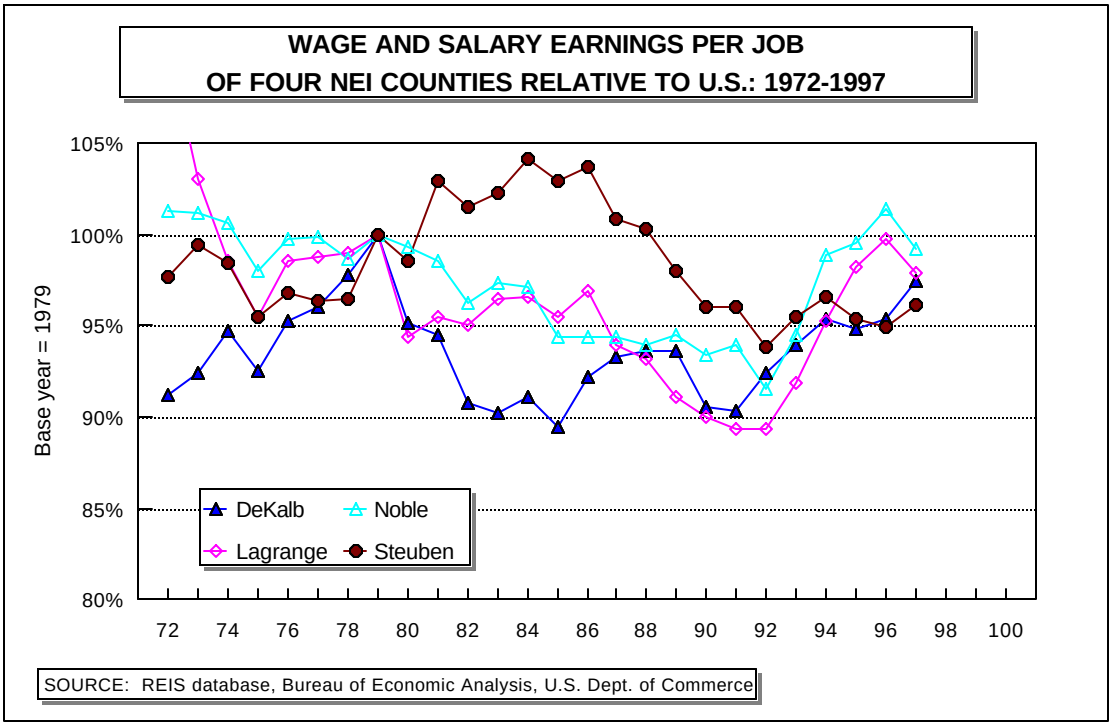


On a percentage basis, wage and salary earnings per job in both NEI and Indiana declined 11 percentage points relative to the U.S. between 1979 and 1997.

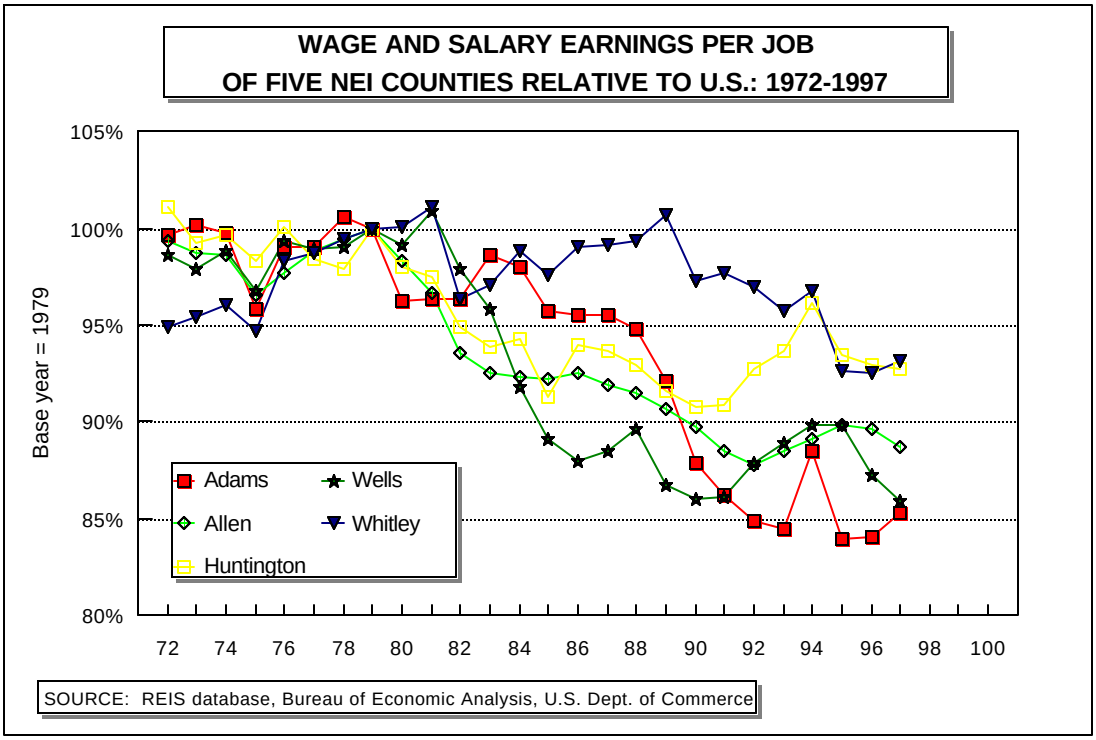


NEI Disaggregated Wage and Salary Earnings per Job

The relative decline in wage and salary earnings per job was not shared equally among the nine counties in NEI. The four "northern tier" counties—DeKalb, Lagrange, Noble, and Steuben—did the best in maintaining "job quality" relative to the U.S. (See below.) All four counties declined less than four percentage points relative to the U.S. However, it took substantial increases in job quality in the nineties for three of the four counties to be included in the group.



Conversely, Adams, Allen, and Wells counties all had deteriorations in "job quality" exceeding ten percentage points relative to the U.S. between 1979 and 1997. Adams and Wells counties approached 15 percentage points. Huntington and Whitley counties both had relative decreases in "job quality" of approximately seven percentage points.

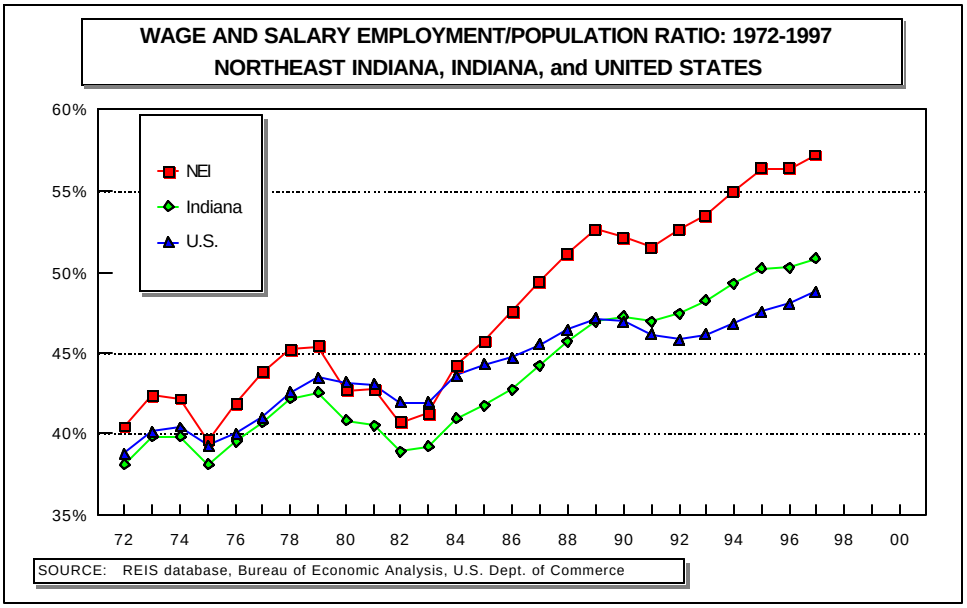


Despite the fact that Allen County experienced a substantial decrease in "job quality" its wage and salary earnings per job remained the highest of the nine counties as of 1997. However, wage and salary earnings per job in DeKalb County approached those in Allen County. There was an approximately $4,000 to $6,000 gap between earnings per job in Allen and DeKalb counties and those of the remaining seven counties.

County	Wage & Salary Earnings per Job in 1997
U.S.	**$29,814**
Allen	28,494
DeKalb	27,680
Indiana	**27,048**
NEI	**26,614**
Noble	24,112
Whitley	23,746
Lagrange	23,620
Wells	23,007
Steuben	22,785
Huntington	22,259
Adams	22,182

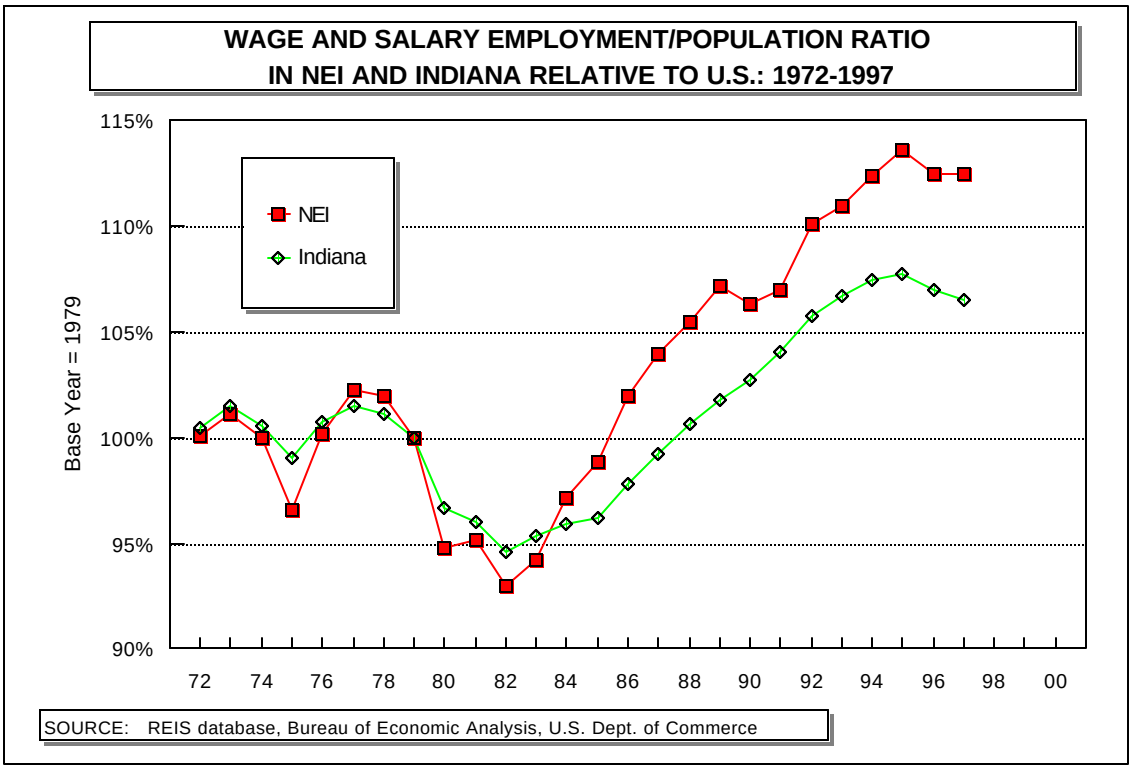
Wage and Salary Employment/Population Ratio

Given that wage and salary earnings per job in NEI declined relative to the U.S., why didn't net earnings (p. 36) decline even more than they did?[22] The short answer is that the relative decline in wage and salary earnings per job was recouped via a relative increase in employment. The chart below shows the wage and salary employment/population ratios for NEI, Indiana, and the U.S. Between 1979 and 1997, the NEI ratio increased from 45.3 percent to 57.1 percent of the population; whereas, the U.S. increased from 43.4 percent to 48.7 percent. Indiana increased from 42.5 percent to 50.8 percent.



The NEI employment/population ratio increased 12.5 percentage points relative to the U.S. ratio between 1979 and 1997. It was sufficient to offset the relative decrease in earnings per job, so net earnings were not effected.

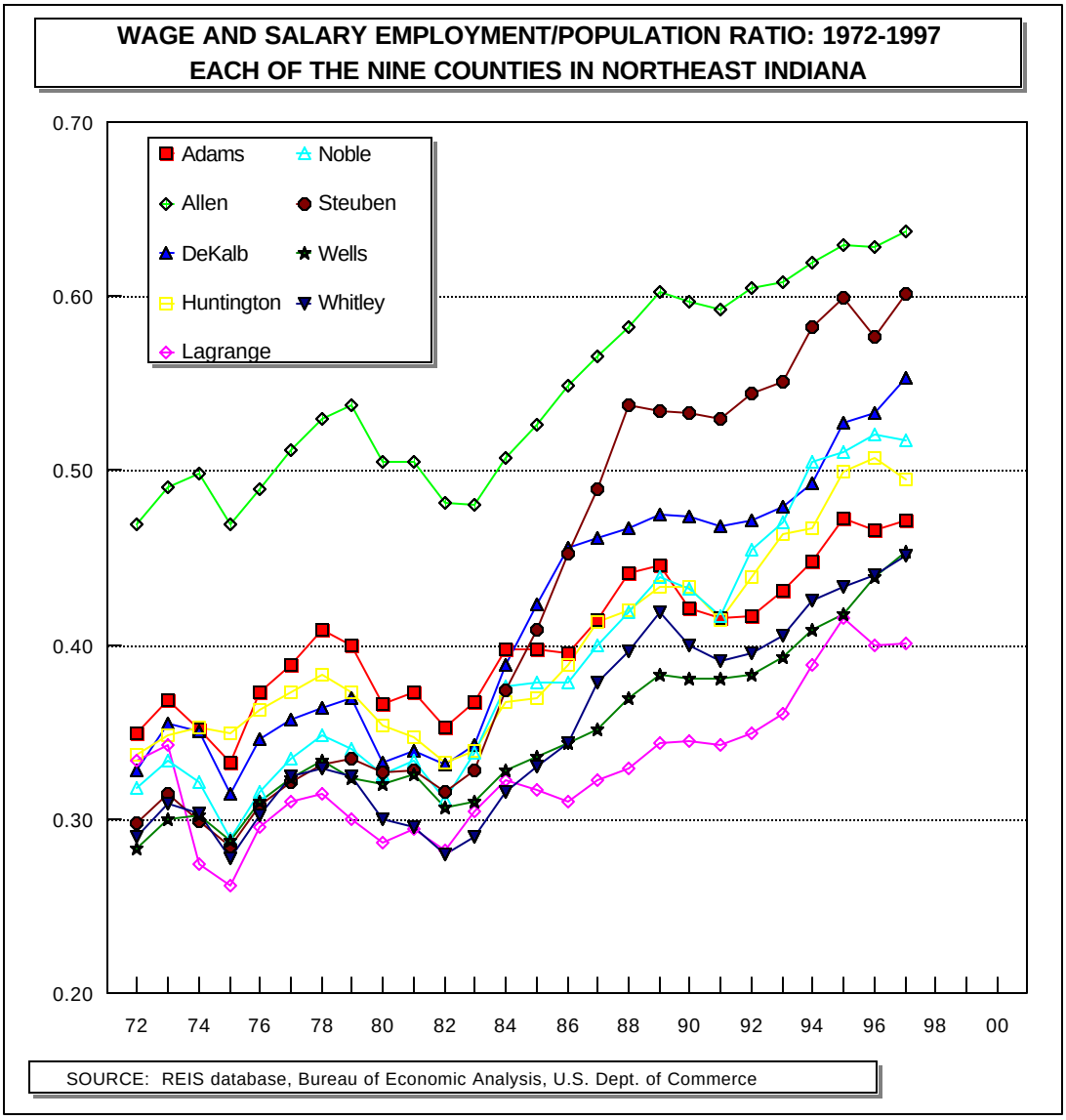
The Indiana employment/population ratio increased 6.5 percentage points relative to the U.S. between 1979 and 1997. It was not sufficient to offset entirely the relative decrease in earnings per job. Consequently, net earnings in Indiana fell 13.6 percentage points (p. 36) of which 10.2 percentage points was equated to slower population growth (p. 37).



[22] Remember that the relative decline in net earnings was equated to relatively slower population growth (p. 37), but the analysis suggests that net earnings should have declined even more because of the deterioration in "job quality" also.

NEI Disaggregated Wage and Salary Employment/Population Ratio

NEI's wage and salary employment/population ratio has varied markedly among the nine counties. As of 1997, Lagrange County had a ratio of only .401 versus Allen County's .637.

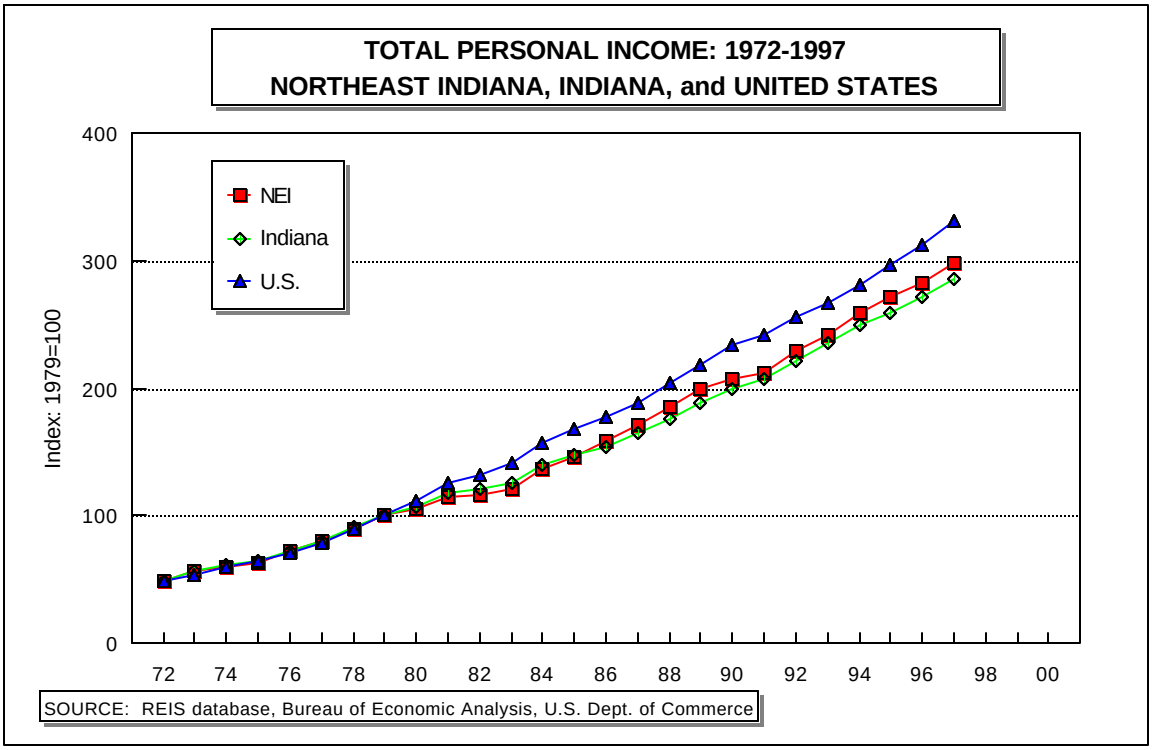


PERSONAL INCOME

Personal income is the money income actually received by households and noncorporate businesses.[23] The majority of personal income is *earned* though work, and earnings in NEI were thoroughly analyzed above. However, there are two other major sources of personal income: (1) transfer payments, and (2) dividends, interest, and rent. The percentage contributions of each component to U.S. personal income in 1997 were as follows:

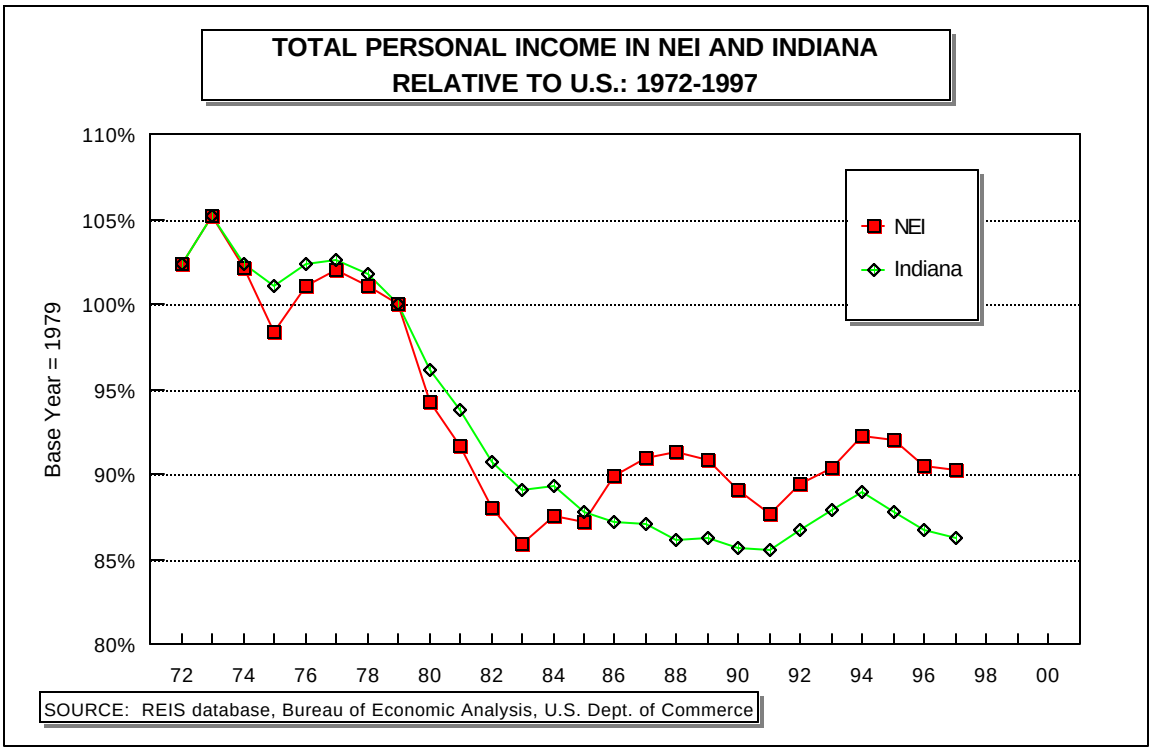
Components of U.S. Personal Income in 1997	Percent
Net earnings	66.4%
(Government) transfer payments	17.2
Dividends, interest, and rent	16.4
Total	100.0

Not unexpectedly, total personal income in NEI has declined relative to U.S. personal income since 1979.



[23] It excludes retained earnings (of corporations), which are "owned" by households but haven't been paid out, and the employee share of social security taxes that employers automatically deduct from employee's earnings.

As of 1997, personal income in NEI had declined 9.7 percentage points relative to U.S. personal income. Indiana's personal income had declined 13.8 percentage points.

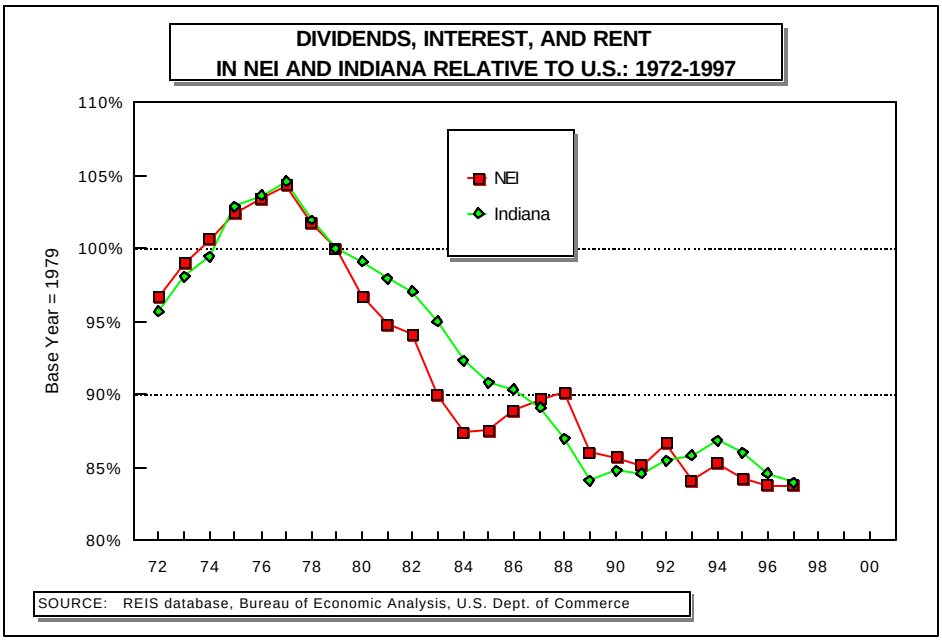


A comparison of the deteriorations of the various major components of personal income in NEI to the U.S. as of 1997 (using 1979 as the base year) was as follows:

	Level Relative to U.S. as of 1997 (1979=100)
Personal income	90.3%
Net earnings	92.4
Wage & salary earnings	89.2
Dividends, interest & rent	83.7
(Government) transfer payments	98.0

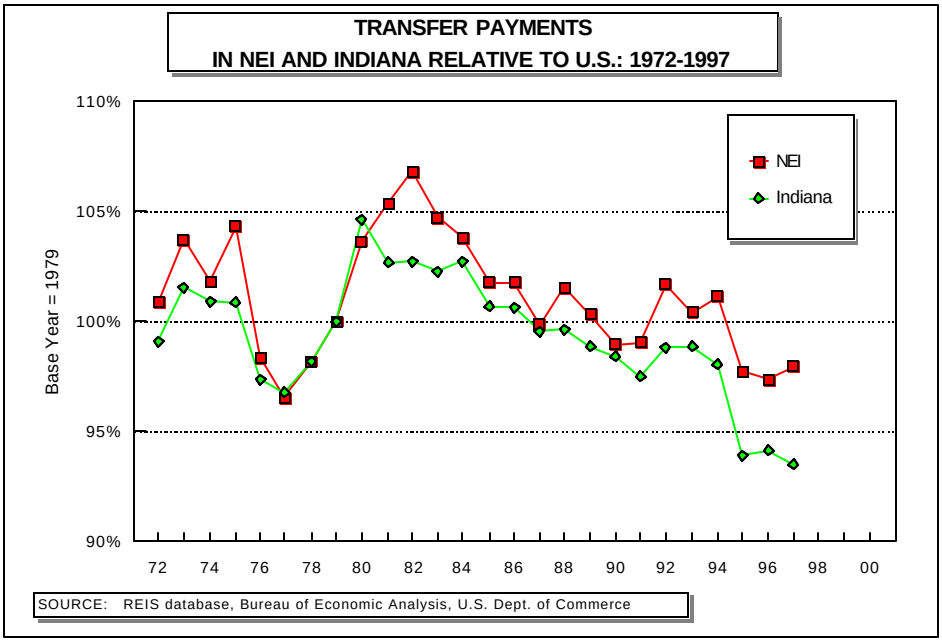
Dividends, Interest and Rent

As noted above, the dividends, interest, and rent component of national income in NEI has deteriorated the most relative to its U.S. counterpart. No detailed analysis was performed to determine the causes of the relatively steep decline.



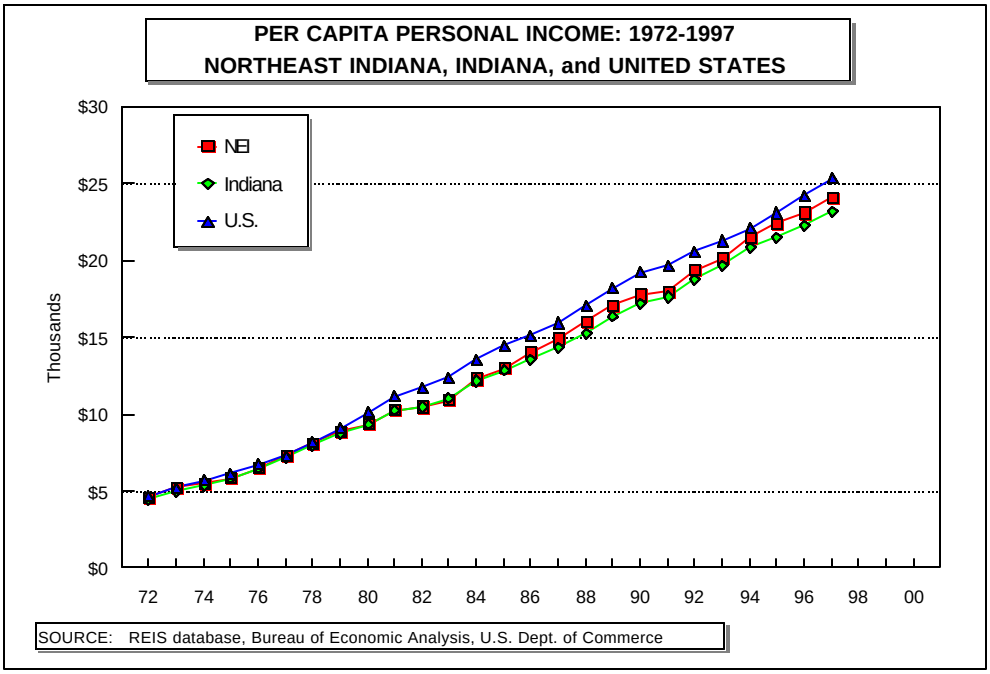
Transfer Payments

In contrast to the relatively steep decline in the dividends, interest, and rent component of national income in NEI, the (government) transfer payments to NEI residents deteriorated only slightly relative to its U.S. counterpart.

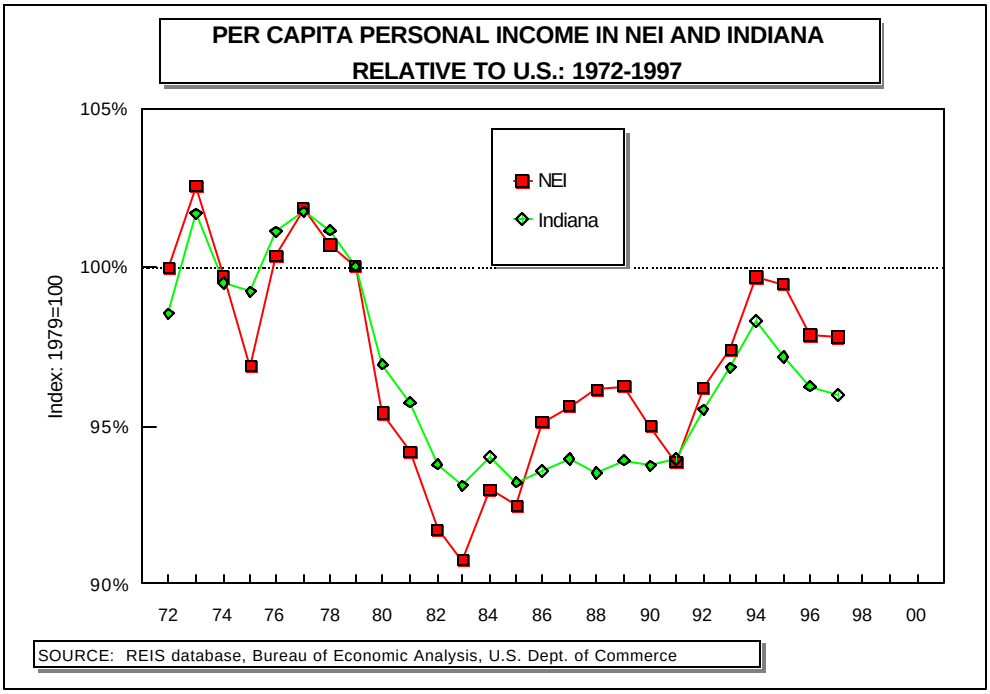


Per Capita Personal Income

Per capita personal income in NEI also has deteriorated relative to U.S. per capita personal income.

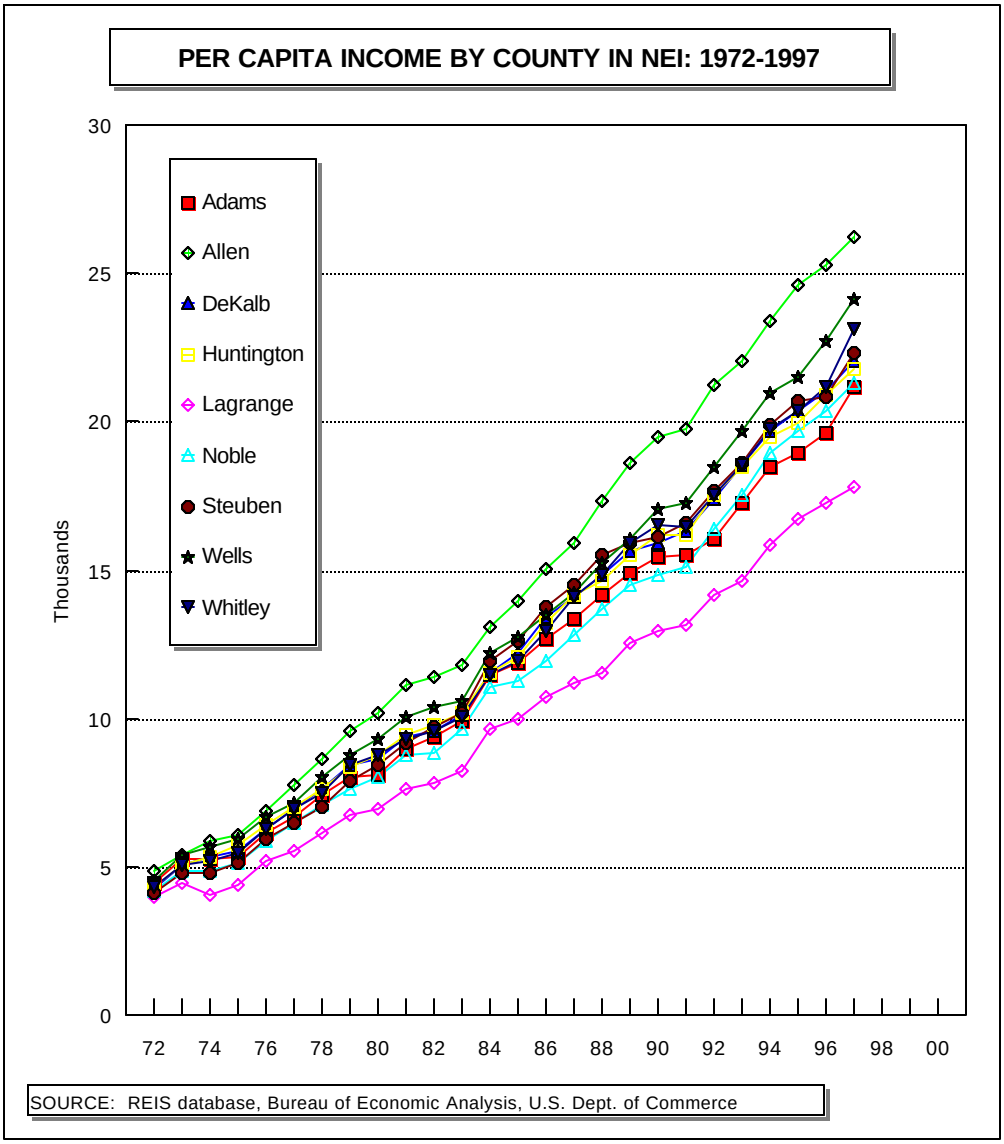


However, the deterioration (since 1979) has been slight—2.0 percentage points as of 1997—compared to the decline in total personal income of 9.7 percentage points. The principal reason for the modest decline in NEI per capita personal income has been the increasing participation rate (in the workforce), which was documented above. The additional income generated via increased participation since 1985 caused the per capita personal income growth in NEI essentially to keep pace with U.S. per capita personal income growth.



NEI Disaggregated Per Capita Personal Income

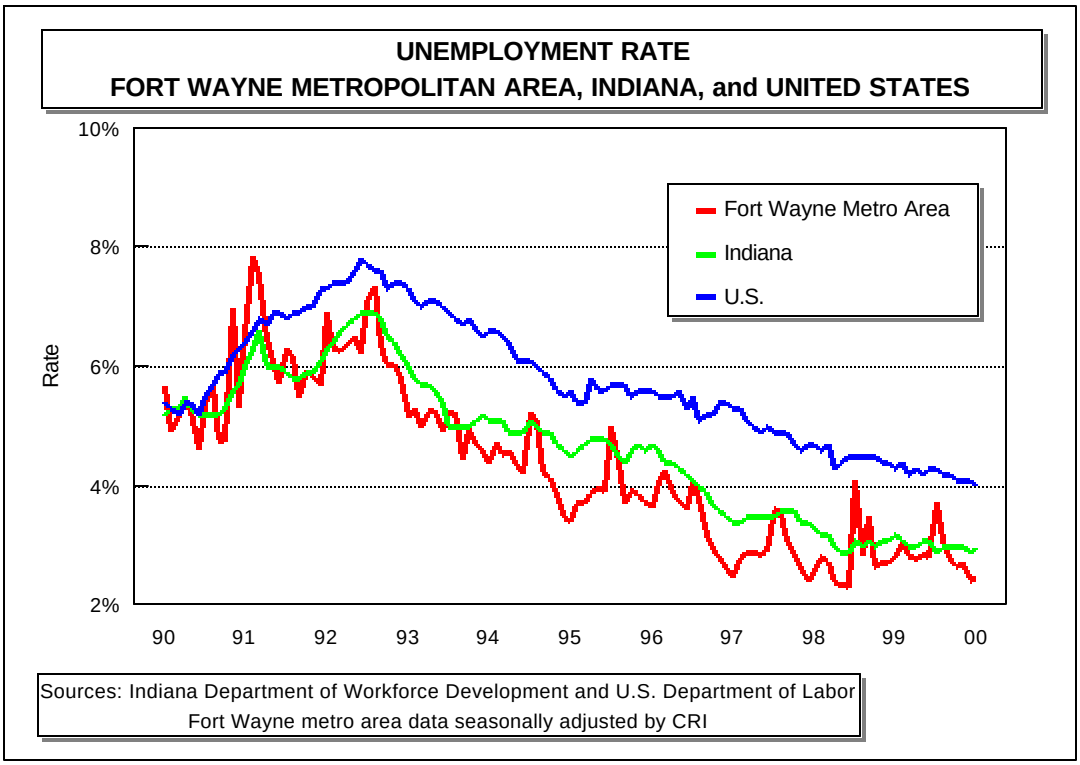
For the 1972-1997 period, per capita income has been highest in Allen County and lowest in Lagrange County. This is to be expected given that education is the most important determinant of income. Allen County has the most highly education population of the nine counties and Lagrange County has the least educated population.



ANALYSIS AND SUMMARY

Overview

NEI's battle to recover from the 1979-1982 economic debacle and to shed its image as the belt buckle of the rustbelt states has been won in terms of employment (as of 1998). In 1998 the level of payroll employment in NEI was 2.9 percentage points above U.S. employment (using 1979 as the base year) (p. 22), and the unemployment rate in the region[24] has been approximately two percentage points below the U.S. unemployment rate since 1993.



NEI's recovery from the debacle was superior to that of Indiana. As of 1998, the level of payroll employment in Indiana was 6.9 percentage points below U.S. employment (using 1979 as the base year).

Total payroll emp loyment in NEI grew 44 percent between 1979 and 1998—from 219,793 to 316,760.

Winning the employment battle has not been costless. The quality of jobs (measured in terms of pay) in NEI relative to the U.S. declined significantly during the same period. In 1979 wage and salary earnings per job in NEI and the U.S. were equal. By 1997 a $3,200 gap had developed: wage and salary earnings per job in NEI were $26,614 versus $29,814 for the U.S. (See p. 38.)

The loss of jobs (and job opportunities) resulting from the 1979-1982 debacle caused population growth in NEI in the eighties to fall dramatically to less than half that of the U.S.—3.9 percent versus 9.8 percent. (See p. 5.) Although official NEI population growth in the nineties will not be published until after the 2000

[24] The referenced unemployment rate is not for NEI but for the six-county Fort Wayne metropolitan area. The latter excludes Lagrange, Noble, and Steuben counties. The Fort Wayne metropolitan area unemployment rate is representative of the NEI region.

census, population estimates suggest NEI has "bounced back" to nearly equal U.S. population growth. (See p. 14.) However, the longer-run projection is for population growth rate in NEI to be approximately half that of the U.S.[25] (See page 14.)

In the eighties, NEI did markedly better than Indiana in terms of population growth. Indiana's population grew only one percent in the decade.

As a result of the loss in job quality and slower population growth, total wage and salary earnings in NEI declined 7.3 percentage points relative to U.S. total wage and salary earnings between 1979 and 1997. (See p. 38.) Ceteris paribus, fewer people produce less earnings. Population in NEI declined 7.6 percentage points relative to U.S. population during the same period.[26] The slower population growth in NEI was essentially equivalent to the deterioration in total wage and salary earnings. Ceteris paribus, it could be asserted that the relative deterioration in wage and salary earnings in NEI was due entirely to its relative deterioration in population growth. But all was not ceteris paribus: wage and salary earnings per job in NEI declined relative to U.S. wage and salary earnings per job. So where is the impact on total wage and salary earnings from the relative deterioration in earnings per job?

The short answer is that the relative decline in wage and salary earnings per job was recouped via a *relative* increase in employment. The wage and salary employment/population ratio for NEI rose 12.5 percentage points relative to the U.S. ratio between 1979 and 1997. (See p. 42.) This was sufficient to offset the decline in <u>average</u> earnings so that the relative decline in <u>total</u> wage and salary earnings appears to be due entirely to an equivalent decline in population.

Specifically, the wage and salary employment/population ratio for NEI rose from 45.3 percent in 1979 to 57.1 percent in 1997. The U.S. ratio rose from 43.4 percent to 48.7 percent. (See p. 41.)

Indiana's wage and salary employment/population ratio increased from 42.5 to 50.8 percent between 1979 and 1997. Indiana's ratio grew less than NEI's; consequently, Indiana's total wage and salary earnings relative to the U.S. decreased twice as much as did NEI's—14.6 percentage points versus 7.3 percentage points. Stated differently, in Indiana the relative decline (compared to the U.S.) in both population and average earnings did show up in a comparison of total wage and salary earnings. (See p. 38.)[27]

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[25] If for NEI the actual population growth rate for the eighties and the estimated population growth rate for the nineties are averaged, it is easier to visualize the persistent decline in the population growth rate in NEI relative to the U.S. population growth rate.

[26] It should be emphasized that population figures since 1990, the last census, are estimates.

[27] One possible answer to the rise in NEI's differential rise in the employment/population ratio is that the percentage of people not in the labor force—primarily the young and old—decreased dramatically relative to that of the U.S. As shown below, changes in the percentages have been modest.

	18 and Under	65 and over	Total
1980 Census			
U.S.	30.02%	11.28%	41.30%
NEI	32.89	10.26	43.15
1990 Census			
U.S.	27.03	12.54	39.57
NEI	30.03	11.90	41.98
1998 Estimate			
U.S.	27.28	12.73	40.01
NEI	29.34	12.06	41.40

It should be noted that the differential rise in NEI's employment/population ratio started rising in 1984 (p. 41) which is more consistent with increasing job opportunities than with demographic changes. If so, then

The increase in NEI's wage and salary employment/population ratio relative to the U.S. raises as many questions as it answers. What caused the greater increase? For example, did increased job opportunities cause more people to enter the workforce *voluntarily* to increase household income or did they enter the workforce *reluctantly* in an attempt to maintain a life style in the face of declining average wage and salary earnings (relative to the U.S.)?

Getting more workers has been the number one problem expressed by NEI employers recently.[28] Although it also is a national problem, the data suggest that indeed, lack of workers currently is a greater problem in NEI than in many other parts of the U.S.

Components of Employment Growth

The primary sectors that contributed to employment growth in NEI between 1979 and 1998 were, in order of magnitude, services, manufacturing, and retail trade. Services and retail trade employment in NEI increased in line with U.S. services employment. (See pp. 29 and 35.) However, manufacturing employment in NEI increased over 20 percent while U.S. manufacturing decreased approximately 10 percent during the same period. (See p. 27.)

Sector	Employment Change in NEI Between 1979 and 1998
Mining	11
Construction	5,065
Finance, Ins., & Real Estate	4,125
Wholesale Trade	3,897
Trans, Com., & Pub Utilities	2,904
Government	7,222
Retail Trade	16,862
Services	37,320
Manufacturing	19,561
TOTAL	96,967

Source: Indiana Department of Workforce Development. Covered employment.

Relationship Between Employment Growth and Manufacturing Employment Growth

Given the multiplier impact of manufacturing employment, certainly the increased manufacturing employment generated much of the increase in retail employment and a significant portion of the increase in services employment. Undoubtedly, manufacturing employment was the *basic* source of much of the total employment growth in NEI between 1979 and 1998. Accordingly, the correlation between the percentage changes in manufacturing employment and the percentage changes in total employment among the nine counties between 1979 and 1998 was extremely high.[29]

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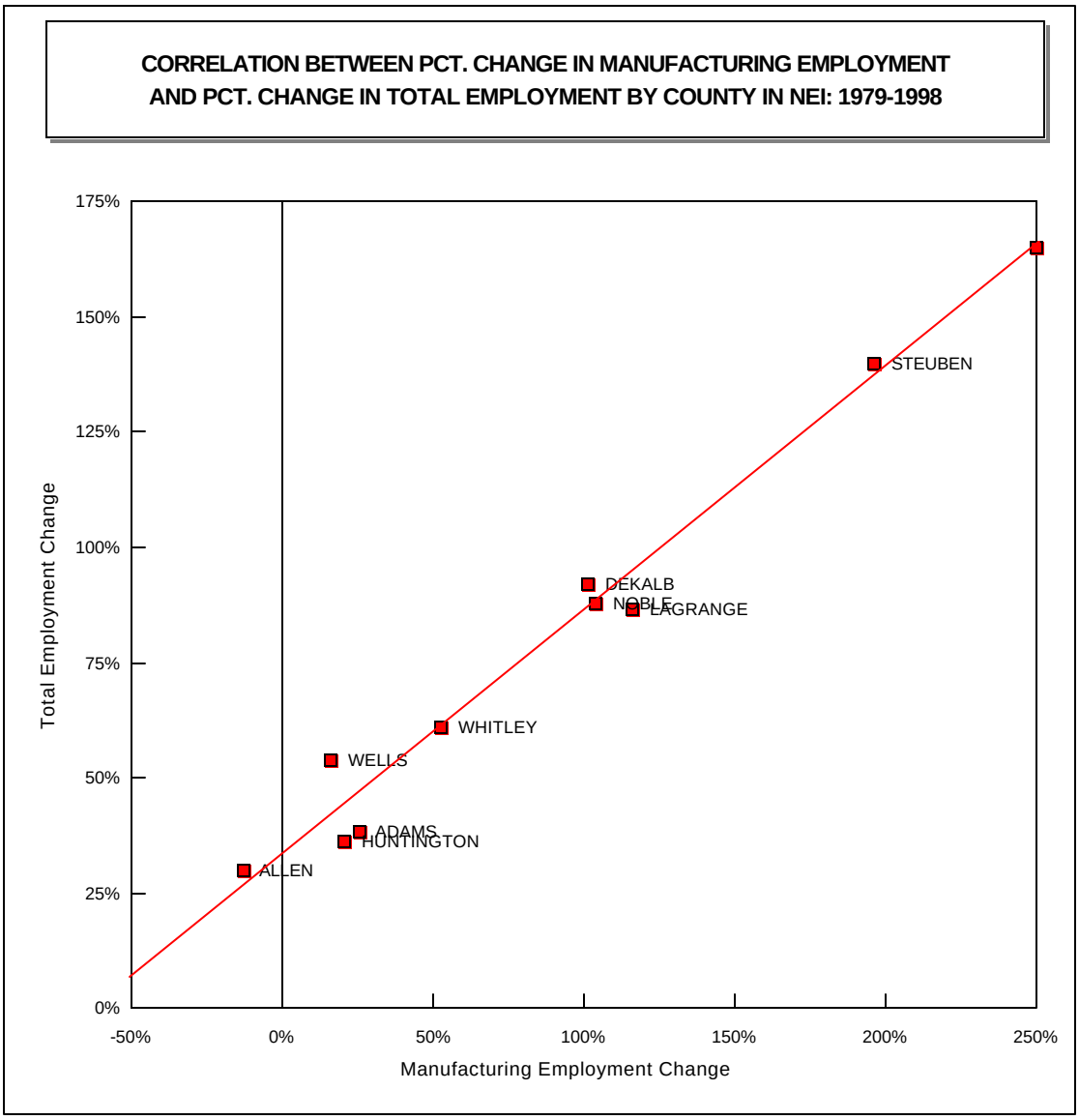
the question returns to whether increased employment resulted from an opportunity to increase household income or a desire to keep it from decreasing (relative to the U.S.).

[28] *"Desperately Seeking Workers,"* **The News Sentinel**, September 6, 1999, Business Monday Section, p. B1.

[29] Technically, 98.0 percent of the percentage changes in total employment was "explained by" percentage changes in manufacturing employment.



Correlation is not necessarily causation, but in this case it is appropriate to conclude that changes in manufacturing employment drove (caused) major changes in total employment.

It is generally accepted that manufacturing activity is *basic* to an area economy. That is, it attracts revenue/income to the area. For example, the GM light-truck assembly plant located in southwest Allen County is arguably the prototypical example of new manufacturing in NEI after 1982. Although a miniscule portion of the trucks assembled there is sold in NEI, the overwhelming portion is sold outside NEI. The income from those sales "flows into" NEI in the form of wages paid, local supplies purchased, etc. at the assembly plant.

The correlation figure above also shows that a greater percentage of the manufacturing employment increase occurred in the more rural counties of NEI. For example, manufacturing employment increased 196 percent in Steuben County between 1979 and 1998 versus a 13 percent decrease in Allen County. The three nonmetro area counties—Lagrange, Noble, and Steuben—had the greatest percentage increases in manufacturing employment.

That is consistent with a trend throughout the Great Lakes' states. For example, between 1969 and 1993, nonmetro area counties in the five-state area of the Chicago Federal Reserve Bank went from a manufacturing concentration 17 percent below the average for the District to a manufacturing concentration 11 percent above the district average. [1, p. 7]

What factors have caused manufacturing employment to grow in NEI, especially in the more rural counties?

Rationale for Manufacturing Employment Growth

Location

Manufactured products must be moved to markets. It costs to move products, especially the bulky ones often associated with manufacturing; therefore, location of manufacturing facilities is critical. According to Bob Ady of PHH Fantus, transportation costs essentially are as important as labor costs in determining the total cost of operation for the average manufacturing firm:

Cost factor	Percent of Total Cost
Labor	36%
Transportation	35
Utilities	17
Occupancy	8
Taxes	4
TOTAL	100

Source: See [6, p. 11]

NEI is strategically located relative to both U.S. consumers and U.S. manufacturing, especially transportation manufacturing companies. Over 50 percent of U.S. consumers and manufacturers are located within 500 miles of NEI.

Market Access of NEI

	Within 300 Miles	Within 600 Miles
Access to U.S. Consumers	18%	54%
Access to U.S. Industrial Base	23%	55%
Access to U.S. Transportation Manufacturing Companies	29%	54%

Source: NIPSCO Economic & Community Development, February 17, 2000.

Transportation Infrastructure

Desirable location is a necessary condition for an efficient manufacturing-plant location, but not a sufficient one. Excellent transportation infrastructure is needed to move product quickly and efficiently. All modes of transportation need to be considered—highway, rail, air, and water.

Highways

Experts note that highways are especially important to a manufacturing-based economy:

> Highways are the primary means by which businesses transport their products and markets are linked together. More than 70 percent of goods manufactured in the U.S. are transported by trucks along the nation's highways. Well-maintained highways are critical for cities and states to attract and retain businesses. CEOs list access to major highways as a key factor in location decisions…. While consensus has yet to be reached, recent studies indicate that a 1 percent increase in highway capital stock reduces business costs by 0.06 percent to 0.08 percent. For industries such as primary metals and motor vehicles, which are concentrated in the Midwest, a 1 percent increase in highway capital stock reduces costs 0.22 percent and 0.19 percent, respectively. [6, p. 25]

Public Capital Elasticities

Industry	
Primary metals	-0.22
Printing & publishing	-0.20
Instruments	-0.19
Motor vehicles	-0.19
Stone, clay & glass	-0.18
Petroleum refining	-0.17
Fabricated metals	-0.17
Rubber and plastics	-0.16
Machinery, except electrical	-0.16
Chemicals	-0.16
Electrical machinery	-0.15
U.S. total economy avg.	-0.04
Transportation & warehousing	0.03
Construction	0.07

Source: Randy Eberts, "Infrastructure's Role in Economic Development," Presentation prepared for the workshop "Designing State-Local Fiscal Policy for Growth and Development," held at the Federal Reserve Bank of Chicago, July 17, 1996.

Northeast Indiana is bisected by a north-south interstate (I-69) and an east-west toll way (I-80/90) runs through the northern tier of counties. I-69 connects with I-65 at Indianapolis. North-South I-75 lies immediately to the east of the eastern boundary of NEI. The I65/I75 corridor is noted for its manufacturing activity, especially transportation related manufacturing.

Access to the Chicago area is available directly via U.S. 30 which is four lanes. Recent completion of the I-469 bypass around Fort Wayne eliminated a bottleneck and opened up numerous sites for future industrial development. The planned upgrading of U.S. 24 to a four-lane highway both east and west of Fort Wayne will enhance east-west movement of product. More efficient access to Toledo (Ohio) port facilities will also result.

Rail

As noted above, over 70 percent of manufactured goods are moved by truck, but for some manufactured goods and their associated raw materials, movement by rail is essential.

Fifty percent of the light-duty GM trucks assembled at the southwest Allen County facility are moved to market by rail. Obviously, it was no coincidence that the plant was located to give it immediate access to an interstate (I-69) and a major rail line—Norfolk Southern.

Nearby access to both east-west and north-south rail lines was a non-negotiable necessity in the location of the Steel Dynamics Inc. (SDI) mini-mill, which chose to locate in NEI. The headline of one of **The News Sentinel** articles (February 15, 1994) trumpeting the announcement read, "Rails Give Butler Inside Track." The article noted:

> Proximity to important steel markets and major railroad lines gave tiny Butler the inside track in its bid for the largest industrial project ever attracted to DeKalb County….
>
> Indianapolis-based Steel Dynamics Inc. will invest $354 million in the initial phase of the project.
>
> By the end of the decade, it plans to invest $160 million to expand the facility….
>
> By comparison, for all of 1993 in northeast Indiana, about $191.5 million in economic-development projects were announced….
>
> Columbia City lost in its bid for the plant because 'the rail situation wasn't as conducive (to a steel mill) as the rail situation in Butler,' said James Argerbright, president of the Whitley County Council….
>
> (According to SDI president and chief executive Keith Busse) 'Butler … presented a unique opportunity to enlist the support of three national railroads—Conrail, CSX, and Norfolk Southern—in our transportation plans,' he said.
>
> The DeKalb County community, about 25 miles northeast of Fort Wayne, is among the few locations in the country where major east-west rail lines cross major north-south rail lines, and at least 70 percent of Steel Dynamics' raw materials will arrive by rail.[30]

In summary, for some manufacturing operations access to rail is a non-negotiable necessity. (SDI required access to at least two rail lines.) GM and SDI are the two largest manufacturing-related, capital projects in NEI since 1972.

Abundant, Appropriately Educated, Less Costly Labor Pool

The 1979-1982 economic debacle produced an abundant, appropriately educated, and less costly pool of unemployed labor.

A dramatic deterioration in wage and salary earnings per job was documented above. Much of this deterioration occurred in manufacturing wages given that much of the restructuring of the rustbelt economy involved the shedding of high wage (typically union) jobs—the loss of the 10,000 International Harvester jobs being the prototypical example.

To summarize, "The early period (of the rustbelt debacle) strongly suggests the falling wages were caused by loss of manufacturing and attendant high-paying jobs and by excess supplies of willing workers." [1, p. 62.][31]

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[30] Doug LeDuc, "Rails Give Butler Inside Track," **The News Sentinel**, February 15, 1994, p. 1A. This article accompanied the lead article "Steel Plant Remolds Area's Expectations," by Lynne McKenna Frazier.

[31] The author then notes that "Whether lower wages have worked to help revive later investment and employment in the region is, as yet, unclear." Given that investment has occurred in NEI, a logical hypothesis is that lower wages have helped.

Assuming a high school education has been a desirable terminal education level for manufacturing employees since 1982, NEI had approximately 8 percent more of its workforce with the desired level of education between 1970 and 1990 than did the U.S. (See p. 17.)

Dramatic Restructuring and Resultant Increases in Productivity

As Federal Reserve Bank of Chicago economists have noted, "With ten to 15 years of hindsight, it now appears that, although business cycle timing and external factors have been very important (in the revival of the Midwest's economy), profound changes in the fundamentals of how Midwestern businesses and governments compete and conduct their affairs have taken place." [1, p. 12]

The rustbelt debacle was so harsh that it induced dramatic restructuring by firms in the Midwest. Federal Reserve Bank of Chicago economists have "…argued that (the resulting) productivity improvements, implemented in the region's plants since the early 1980s, have probably played the most important role in the region's revival." [3, p. 3]

The arrival of "lean" manufacturing technologies is reshaping manufacturing on a broad scale. Lean manufacturing refers to a production system that gained widespread attention in the early eighties. It combines aspects of both craft and mass production, ranging from teamwork on the shop floor, emphasis on low inventory, and flexible production equipment, to close relationships with suppliers. [3, p. 9]

Auto Industry Re-concentration in the Midwest

Of the different types of manufacturing employment in NEI, auto-related employment arguably is dominant.[32]

Recently auto assembly plants have returned to the Midwest. Prior to the proliferation of car models, assembly plants tended to be located near the various population centers across the U.S.

> The number of different car and truck models sold in the U.S. increased five-fold, from 30 in 1955 to 142 in 1989, while sales only doubled from 8 million units to 16 million in 1989. With reduced output per individual model, the entire output would best be produced at one plant only and, consequently, the geographic argument for an interior location became compelling; that way the company can minimize the cost of distributing the output to a national market. As a result, during the past 16 years auto producers have opened assembly plants in the interior, especially along the I-65/I-75 corridor, and closed coastal plants….

Distribution of Assembly Plants Over Time, by Region

	Status of Plant			
Region	**Open in 1979**	**Closed 1979-96**	**Open 1979-96**	**Open in 1996**
Midwest	27	9	13	31
Southeast	6	1	8	13
West	15	6	1	10
Northeast	9	5	0	4
Total	**57**	**21**	**22**	**58**
I-65/I-75 corridor	27	8	20	39
Other	30	13	2	13

[32] It is difficult to quantify the relative importance of auto-related manufacturing employment to total manufacturing employment in NEI. For example, there is substantial plastic and wire extrusion employment in NEI which obviously gets classified in those sectors, but much of the output goes to the auto industry.

More generally, one can say that the Midwest (and its southern extension) has a location advantage when the final product is bulky, generally one plant produces that product, there is a national market, and inputs are easily shipped….

This restructuring has encouraged two opposing location trends (for suppliers). On the one hand, suppliers want to be near the corporate offices, research centers, and production facilities maintained in Michigan by their customers, primarily the Big Three. On the other hand, suppliers face pressure to locate some production in the Southeast to make use of the region's lower-cost, nonunion work force and to deliver just-in-time to the region's new foreign-owned assembly plants….

Rubenstein provided information on the location characteristics of 881 plants that manufacture components for new vehicles. The data represent plants of the 150 largest auto suppliers companies in North America, as identified by **Automotive News**, the industry's principal trade journal. Rubenstein found that 65 percent of these component plants are located in the Midwest, with Michigan being home to the largest number of plants—234. For the 647 plants whose opening dates could be identified, Rubenstein traced out the geographic distribution over time. He found that the trend to locate in the Southeast has been underway since the 1960s. The recent increase in locations in the Midwest represents too few observations to draw strong conclusions….

The drift to the Southeast has been sustained in recent years less by the relocation of U.S.-owned facilities than by the arrival of a large number of foreign competitors. (See chart below.) Within the Midwest, new facilities are less likely to locate in the Detroit area and more likely to be in southwestern Michigan, northeastern Indiana,[33] and western Ohio. Regional distribution of plants varied widely according to type of product or system. High value-added components requiring skilled workers, such as engines and brakes, are most likely to remain in the Midwest. In contrast, the Southeast has a higher percentage of factories making bulky, low value-added components, such as tires, although in some cases Southeast or coastal location was extended to components based on "stand-alone" new technology, such as air bags and air conditioners. [3, pp. 11-12]

REGION	Before 1950	1950-1959	1960-1969	1970-1979	1980-1989	1990-1995	Unknown	Total
Midwest	113	46	58	60	78	22	115	**492**
Southeast	7	8	25	50	65	11	69	**235**
West	9	1	13	15	21	2	28	**89**
Northeast	18	3	8	5	9	0	22	**65**
TOTAL	**147**	**58**	**104**	**130**	**173**	**35**	**234**	**881**

Source: See [9].

[33] Underlined for emphasis.

In his role as Director of Indiana Northeast Development, Lincoln Schrock has led economic development efforts in NEI since 1982.[34] He has compiled a history of the initial announcements of larger (only those planning to employ 100 or more) manufacturing firms locating/relocating in northeast Indiana between 1983 and 1992 inclusively. As shown below, auto related manufacturing accounted for 66 percent of the activity and 85 percent of the capital investment.

	Count	Capital Investment	Jobs
"New" Arrivals	53	$1 bil.	15,000
Auto Related	35	$850 mil.	10,000
Percentage Auto Related	66%	85%	66.7%

Source: Lincoln Schrock, Director, Indiana Northeast Development

Exports

Exports have become a much larger share of the U.S. economy since the 1979-1982 debacle. This is an especially important trend to the Midwest economy, because manufactured goods are an important export. As Federal Reserve Bank of Chicago economists noted:

> The fabric of the Midwest economy has become intricately interwoven with the international economy. The economic revival that has occurred in the Midwest during the past decade has important underpinnings in the increasingly worldwide scope of markets. An unfettering of markets has been fostered largely through a maintenance and expansion of open borders. Although it has not been an easy transformation, the current state of Midwest industry owes much to the structural modifications in the economy that were forced, in part, by import competition and the competitive nature of foreign-owned entities that have entered and become an integral part of the domestic economy….
>
> Much of the expansion in U.S. exports—both agricultural and manufacturing—has occurred in response to growth in emerging markets abroad. Indeed some estimates suggest the nearly three-quarters of future growth in world trade is expected to arise from such markets. High on the list of import demand by emerging markets are capital goods—machinery and equipment—and the Midwest is well situated to respond. [1, pp. 30-34]

External Factors

For much of the period since the 1979-1982 debacle, NEI in particular and the rustbelt states in general have experienced favorable external conditions: "… declining real energy prices, important both as an input to the region's industries and as a determinant of demand for its products; declining (nominal) interest rates, stimulating demand for durable goods; and the declining dollar since the mid-eighties which has improved the international competitiveness of the region's companies. [3, p. 3]

More recently, the outsized gains in stock markets have generated increased demand for durable goods—the prototypical example being large, luxurious SUVs.

All these factors have combined to increase the demand for the manufactured products produced in NEI.

[34] He represents primarily the counties other than Allen County, although he coordinates with Allen County officials. In fact, currently his office is located in Fort Wayne (Allen County) at the Greater Fort Wayne Chamber of Commerce.

Four Economies Within the NEI Economy

As noted above, employment growth in NEI outpaced U.S. employment growth between 1979 and 1998. However, the success was not shared equally among the nine NEI counties. As shown below, employment growth decreased dramatically from the northern tier counties to the southern tier counties. Employment in Lagrange and Steuben counties combined grew 2.8 times faster than employment in Adams, Huntington, and Wells counties combined.

County Groupings North to South	Percentage Employment Growth Between 1979 and 1998
Lagrange & Steuben	114.5%
DeKalb, Noble & Whitley	82.4
Allen	29.9
Adams, Huntington & Wells	41.3

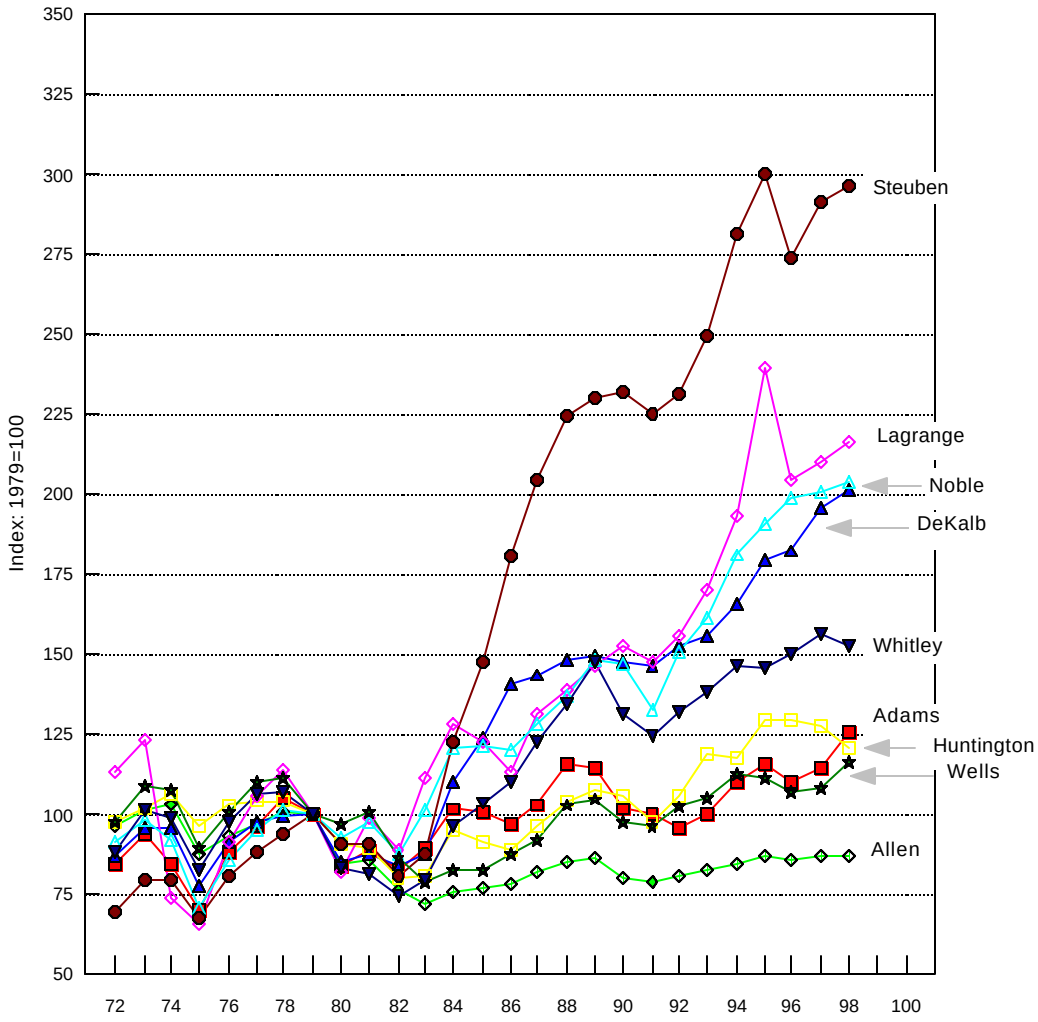
Two comments are in order relative to the ranking. Geographically, Whitley County should be included with Allen County; however, it was included with DeKalb and Noble counties. Allen County is so dominant in terms of size that to combine any contiguous county with it is to lose the characteristics of that county. Whitley County has exhibited many of the characteristics of DeKalb and Noble counties; however, it has grown at a slower pace. But it has grown substantially faster than Adams, Allen, Huntington, and Wells counties. Given the recent addition of the U.S. 30 industrial park and a new Steel Dynamics, Inc. plant (assuming approval of environmental permit applications), Whitley County is likely to appear even more like a DeKalb-Noble clone.

Second, Allen County did grow slower than the tier of counties to its south and southwest; therefore, the correlation between employment growth and north-south geography is not perfect.

Rationale for Differential Manufacturing Employment Growth Among Counties

Given the high correlation between employment growth and manufacturing employment growth in NEI described above, the question as to why employment growth differed markedly among NEI counties is reduced to the question of why manufacturing employment growth differed? For example, manufacturing employment in Steuben County grew by 200 percent contrasted with an increase of 20-25 percent in Adams, Huntington, and Wells counties. Manufacturing employment in Allen County decreased 13 percent. What are the reasons for the differential manufacturing employment growth among the nine counties?

TRENDS IN MANUFACTURING EMPLOYMENT BY COUNTY IN NORTHEAST INDIANA
1972-1998 ANNUAL AVERAGES



SOURCE: U.S. Dept. of Labor and Indiana Dept. of Workforce Development
Covered employment

Transportation Infrastructure

The over 20 percent increase (since 1979) in manufacturing jobs in NEI outside of the core county (Allen) and the loss of manufacturing jobs in the core county were documented above. (See p. 27.) These trends are consistent with what occurred elsewhere in the Great Lakes' states.

> Benet (noted) that the overall loss of jobs in manufacturing (in the Midwest) over the last 15 years or so was an urban phenomenon. While the number of manufacturing jobs in metropolitan areas counties of the Midwest fell more than one-fifth between 1979 and 1993, the number in rural counties increased slightly.… Benet found that virtually all of the growth in rural manufacturing jobs in the Midwest (Illinois, Indiana, Iowa, Michigan, and Wisconsin) occurred in small 'rural' counties (population of less than 2,500) and in 'less urbanized' rural counties (population of 2,500 to 19,999).[35] [4, p. 6]

Although the shifts in manufacturing jobs in NEI were substantially greater than Benet found for the Midwest in general, the trends Benet found also have existed in NEI.

Furthermore, "Reasons behind the rise of manufacturing in rural areas include not only the smaller scale at which manufacturing can now take place but also changes in transportation, which have favored trucking rather than locations at central rail terminals." [2. p. 7]

Given that I-69 runs from north to south through NEI, it is difficult to argue that differential access to an interstate accounts for the differential growth. However, the northern tier counties have access not only to a north-south interstate but the east-west toll way (I80-90) and are closest to an east-west interstate (I-94) that links Chicago and Detroit. Steuben County, the star of the nine-county region in terms of manufacturing employment growth, contains the intersection of I-69 and I80-90. Analyzing the data, one is tempted to hypothesize a multiplicative effect of interstates on manufacturing employment based on the proximity to the intersection.

Natural Amenities

At least two recent research studies have posited that natural amenities enhance the growth of "rural" counties. [26, 27] As the one article noted, " … many … high-growth rural counties enjoy high levels of scenic amenities."[36] [26]

Obviously, it is difficult to quantify the level of scenic amenities individual counties have because they are so varied and one person's amenity is another person's bane.[37] But surface water certainly ranks high on most lists of amenities.

Hart, of the University of Minnesota, noted:

> '(A) summer cottage on a lake has been a symbol of the good life for generations.' In many cases, these summer homes or cottages take on a natural life of their own, progressing from primitive hunting shacks to year-round residences for retirement. Resort communities often have a similar history of evolution. The tourist season lengthens considerably over time, requiring and supporting a greater variety of consumer and business services and a vastly expanded array of employment

[35] NEI experienced substantial manufacturing employment growth in non-urban counties larger than 19,999—e.g., DeKalb and Noble counties.
[36] The assertion is that scenic amenities contribute to population growth, not vice versa.
[37] As a measure of the level of amenities, one of the research studies used a proxy—the number of private businesses engaged in outdoor sports or recreation camps, recreational vehicle parks, and campsites. [27]

> opportunities in both the private and the public sector. The change often transforms a hitherto sparsely populated location into a vibrant and bustling area for much of the year.[38] [4, pp. 12-13]

Given that the primary scenic amenity in NEI is lakes and streams, a crude measure of scenic amenities could be a count of lakes by county. A simple count reinforces the desirability of the northern tier counties in NEI over the southern tier counties.

County Groupings North to South	Number of Natural Lakes (50 acres or more)
Lagrange & Steuben	27, 30
DeKalb, Noble & Whitley	2, 23, 10
Allen	0
Adams, Huntington & Wells	0, 0*, 0

* Huntington County has two large reservoirs—Huntington (900 acres) and Salamonie (2,855 acres)—that are available for recreation but not development waterside.

Differential State Policies—the Border Wars

There is not agreement on the number of steps involved in choosing a site for a manufacturing facility, but at minimum there are two. First is choosing a region of the country based on one set of criteria and second is choosing a specific site (within the region) based on additional criteria. [31] If the region chosen includes multiple states, then the opportunity for differential state policies to influence the specific site decision enters the process.

Specifically, differential unemployment insurance and worker's compensation taxes between Indiana and Michigan in particular were repeatedly cited as the reason numerous Michigan-based manufacturers migrated across the border into northeast Indiana in the eighties. Given that there was undoubtedly an important economic reason for locating in Michigan initially (the first step noted above), migrating just across the border into Indiana allowed companies largely to preserve that economic advantage but escape the relatively onerous unemployment insurance and worker's compensation taxes in Michigan at that time.

A February 3, 1985 article in the Sunday business section of the **Chicago Tribune,** titled "Why Northeastern Indiana Is a Hotspot for Industry," succinctly captured the issue and the impact:

> 'Industrial parks are popping up like wildfire,' said Norman Madsen, who shuttered his wire-products business in Jackson, Michigan, and moved to the city of Orland[39] (in Steuben County), three years ago. 'Just about every town has one, and every park is growing.'…
>
> Executives who have moved to Indiana are also quick to cite financial incentives for their companies….
>
> But in numerous interviews, executives named Indiana's relatively low unemployment insurance and worker's-compensation taxes as key reasons for the state's business allure.
>
> Madsen, for example, estimated his worker's-compensation payments to the state of Michigan at $7.32 for every $100 of payroll, nearly six times the $1.27 he pays Indiana.

[38] For those readers familiar with Angola (in Steuben County), the description is perfect. Chuck Walker, the owner of Vertical Corporation, has acknowledged that an important reason for moving the operation from Detroit to Angola was access to the area lakes. Steuben County advertises itself as "the home of 101 lakes."
[39] Actually, Orland is a small town.

> 'Illinois is a fine state for many types of business, but Indiana's tax climate makes it much more attractive for manufacturing," said John Dawkins, president of Chicago-based Bulldog Battery Corp., a maker of industrial batteries.
>
> Dawkins, who is moving Bulldog's production facilities to Warsaw, Indiana, from Chicago, said the switch is saving him about $100,000 a year, which represents more than seven percent of his company's $1.4 million in annual sales.'[40]
>
> As the case of Madsen and Dawkins demonstrate, accelerating business investment in Indiana frequently takes place at the expense of neighboring states.
>
> Madsen set off a mini-stampede when he moved his business from Michigan. Four other companies followed, leaving Jackson to set up shop in Orland, and others are understood to be on the way. In fact, Indiana officials say that no fewer than 37 former Michigan companies have created more than 3,400 jobs in Indiana since 1981.
>
> 'I didn't come here to lead an exodus,' Madsen said, 'but people asked my opinion of the business climate in Indiana, and I told them.'

Michigan officials agreed. On July 28, 1995, the **Citizen Patriot**, a Jackson, Michigan, paper, noted:

> The loss of industries to the Sunbelt has long been a concern to Michigan officials, but the state also finds itself having to keep an eye on a neighbor: Indiana.
>
> Small firms are trickling from Michigan across the border, lured in part by Indiana's lower business and government costs. Indeed, Indiana is being accused in some quarters of conducting business 'raids' in Michigan,
>
> 'They (Indiana economic development officials) are simply out raiding. It's a fantastic effort on their part to raid Michigan business because they're in the same boat we are, but they have something to offer, and we don't,' said Jerry L. Ford, Coldwater mayor.[41]

A December 21, 1986, article in the **Toledo (Ohio) Blade** noted:

> They (Ohio companies) are not leaving because Indiana is a nicer state; they are leaving because the cost of doing business … is better there.[42]

The article contained two charts:

Unemployment Insurance	
Average annual payment for a business with 100 employees	
Indiana	$10,500
Ohio	29,600
Michigan	52,200

Source: U.S. Department of Labor

[40] Warsaw is located in Kosciusko County which is on the western border of NEI.
[41] Terry Hudson, "For Some Jackson Firms, Grass Greener in Indiana," **Citizen Patriot**, July 28, 1985. Coldwater is a small town in Michigan just north of Steuben County.
[42] Michael Towle, "Why is Economic Sun Shining On Indiana?" **Toledo Blade**, December 21, 1986.

Worker's Compensation Tax	
Per $100 of Payroll	
Indiana	$0.96
Ohio	2.01
Michigan	4.87

Source: U.S. Chamber of Commerce

But Michigan especially did not sit idly by as the migration continued. It counterattacked, and in 1996 a full-scale war broke out between the states. **The Wall Street Journal** reported:

> **A BORDER WAR rages between Michigan and Indiana.** The states play tug-of-war in an effort to entice business to relocate. Two weeks ago, Michigan governor John Engler sent 1,000 letters to Ft. Wayne (IN) businesses urging them to take part in the state's economic 'renaissance.' After years of admitting the Hoosier State's cost advantage, Michigan twice this year has launched direct-mail campaigns at Indiana, claiming that 21 tax cuts in six years have given Michigan an edge.
>
> 'We've gotten our act together,' says Doug Rothwell, chief exe cutive of the Michigan Jobs Commission. Indiana's Department of Education is sending its own letters that question Michigan's cost comparison's. 'They're tired of having sand kicked in their face,' says a spokesman for the Indiana Chamber.[43]

The chart contained in Governor Engler's letter that created the brouhaha is shown below:

Annual Cost Summary				
	Automotive Industry		Plastics Industry	
	Jackson, MI	Fort Wayne, IN	Jackson, MI	Fort Wayne, IN
Labor				
Wages[44]	$5,914	$6,141	$1,821	$2,058
Workers' comp	575	289	164	66
Fringes	1,848	1,861	581	626
Subtotal	**8,338**	**8,291**	**2,556**	**2,750**
Utilities				
Electric power	140	107	1,136	832
Natural gas	47	245	0	1
Sewer	6	13	4	8
Subtotal	**194**	**382**	**1,148**	**951**
Amortization	**1,284**	**1,301**	**5,782**	**5,832**
Property taxes				
Realty	84	93	231	269
Machinery and equipment	147	155	737	776
Inventory	0	124	0	155
Subtotal	**231**	**372**	**968**	**1,190**
State taxes	**124**	**372**	**968**	**1,190**
Annual cost	**$10,171**	**$10,419**	**$10,501**	**$10,766**

[43] Work Week: A Special News Report About Life on the Job—and Trends Taking Shape There, **The Wall Street Journal**, August 13, 1996, p. A1.

[44] The basis(es) for the cost on this line are nor clear. Assumedly, it is a state tax(es) and/or charge(s) on representative wages—e.g., state income tax.

But Hoosiers cried foul. As reported in the June 22, 1996 issue of the (Auburn, IN) **Evening Star**:

> Edward O. Roberts Jr., of the Indiana Manufacturers Association, looked at Engler's chart and found a glaring omission.
>
> 'He left out unemployment insurance,' Roberts said…. 'Sure, the Bulls can play without Michael Jordan and it will be even,' Roberts joked. ' What Engler did was put cement in Michael Jordan's shoes and called it fair.'[45]

Roberts amendment to the chart above was as follows:

Unemployment ins.	418	98	418	98
Revised annual cost	**$10,589**	**$10,517**	**$10,919**	**$10,864**

Robert's results are consistent with what both economic theory predicts and tax studies confirm: an equilibrium situation, or in war terms, a stalemate.

Taxes typically are not included in the criteria for making the "region of the country" decision—location and labor usually dominate; however, differential tax rates among different geographical entities certainly can enter as a criterion in the second level decision: where to locate within a region. There is an abundance of evidence that differential state taxes played a significant role in the earlier years of NEI's recovery from the 1979-1982 debacle.

There is substantial disagreement as to how much (if any) 'border hopping" takes place and the more important question of the factor(s) (if any) that cause border hopping. A right-to-work law is a commonly cited factor. From 1947 to 1992, manufacturing employment increased by 148 percent in states that currently have right-to-work laws and was virtually flat elsewhere. [6, p. 5] But assuming northeast Indiana, southern Michigan, and northwest Ohio have been chosen as the region in which to locate, the right-to-work law doesn't enter into the specific site decision. All three states do not have the law.

Although no formal research has been done (to our knowledge), there is overwhelming anecdotal evidence that differentials in indirect business taxes between Michigan and Indiana in the early eighties caused many firms to locate (or relocate) in NEI rather than Michigan. A majority of the firms cited by Lincoln Schrock (p. 58) came from Michigan.

As noted above, Michigan dramatically lowered its indirect business taxes to be competitive and widely promoted the change. Michigan's policy changes and behavior were such to indicate that policy makers certainly *thought* that their uncompetitive indirect business taxes were hindering economic development in Michigan—especially along southern border counties.[46]

The entire border war saga is supportive of research that suggests competing states generally have (or gravitate to) similar policies. "Papke concluded that there appears to be implicit coordination among the Great Lakes' states in business tax policy; the forces of competition or copycat behavior have tended to equalize levels of taxation." [6, p. 11]

The important point for the future of NEI is that likely it no longer enjoys a significant economic advantage over Michigan (or Ohio) in business tax costs—either direct or indirect.

[45] David Benson, "Now, Michigan's After Hoosier Industry," **Evening Star**, June 22, 1996, p. 1.
[46] Of course, just because policy makers think a particular policy is harmful (or helpful) doesn't make it so.

Rationale for Differential Services Employment Growth in Allen County/Fort Wayne

Although several counties outperformed Allen County in percentage growth of service employment (p. 30), that is somewhat misleading. (The percentage growth in services employment for the rural counties was from very small bases.) Allen County has been the real leader in terms of growth of services employment. Services employment in Allen County more than doubled between 1979 and 1998—from 23,501 to 50,440. Furthermore, the 50,440 service employees constituted 73.5 percent of services employment in NEI as of 1998. Manufacturing employment in Allen County constituted only 39.5 percent of all employment in NEI. Total employment in Allen County constituted 59.4 percent of total employment in NEI. Allen County is over represented in services employment and under represented in manufacturing employment.

Within Allen County, services employment is concentrated in Fort Wayne. In fact one economist has posited the "best economic definition" of a city to be "a place with a diverse collection of service industries." The economist notes:

> Not only are business services concentrated in cities, but also the larger the city, the more prevalent are business services. While 8 percent of the nation's rural employment is engaged in business services, 22 percent of its large-city employment can be found there. Even as manufacturing has left, service employment in large cities has remained. [32, p. 11]

Three primary reasons for growth of business services in cities are as follows:

1. Services tend to use less land than manufacturing…. (T)his means that service industries are more likely to outbid manufacturing industries for land, where land is most scarce—in large cities.
2. (Business) service firms hire more educated workers than do manufacturing firms. (Note the education level in Allen County versus the other eight counties {p. 21}.)
3. Business services have greater potential for co-agglomeration—the tendency to locate near other industries. (For example, banks need advertising firms and advertising firms need banks.) [32, p. 11]

Services employment, and the future for sustained increases in employment in Fort Wayne in particular—if not Allen County in general—lies more in services employment than in manufacturing employment.

RECOMMENDATIONS

Declare Victory and Change Goal(s)

The battle to overcome the 1979-1982 economic debacle in NEI has been won. Declare victory while ahead and choose a new goal(s)!

NEI employment growth from 1979 through 1998 exceeded U.S. employment growth for the comparable period. (See p. 22.) Because there is essentially no reservoir of labor currently available (p. 49) and NEI's population is projected to grow more slowly than that of the U.S. (p. 13), NEI employment growth is likely to be below U.S. employment growth consistently in a status quo future.[47] It is highly unlikely that NEI will be able to maintain its lead in employment growth over the U.S. for at least two major reasons.

[47] In fact it has been according to recent employment data not contained in this report.

Retiring Baby Boomers

The population of the U.S. is graying dramatically. The primary reason is the baby boom generation that is so large in relation to the remainder of the population that it generates profound policy issues—e.g., the social security funding issue.[48]

The impact of the Boomers on the demographics of the workforce is projected to be profound:

> Between now and the year 2020, the movement of the Boomers into their fifties and sixties will most significantly affect the age compositions of both the population and the workforce. The 55-64 age group will nearly double between now and then. And beginning in 2011, when the first Boomer reaches age sixty-five, the ranks of America's elderly will explode….
>
> One important consequence of this aging population is the number of working-age Americans available to support each person of retirement age will plunge sharply in the early years of the next century…. (T)here are now more than 4.5 persons aged twenty to sixty-four (the prime working ages) for each person aged sixty-five or older. After 2010, as the Boomers age into their late sixties and beyond, that critical ratio will fall sharply before leveling off at slightly above 2.5 some twenty years later. [41]

There are reasons to believe that the graying problem may impact NEI (and similar regions) first and harder. Given that the population of NEI is projected to grow much slower than the U.S. population, replacing the retiring baby boomers is likely to be even more difficult in NEI than for the U.S. as a whole. This could drive potential employment growth even lower than the projected growth in population.

Differential Impact of the 1979-1982 Economic Debacle

Furthermore, the 1979-1982 economic debacle in the rustbelt states (and NEI) likely will cause an even greater reduction in the size of the workforce in the near future (compared to the U.S.). As Judy noted:

> A wave of retirements looms before many employers, including some major corporations. Unionized, durable goods manufacturing companies are likely to be most seriously affected. Many such companies downsized in the 1980s and early 1990s, and as the ax swung, workers with the greatest seniority typically kept their jobs. [41] Because only a minority of the downsizers subsequently hired many new production-line employees, their workforces are beginning to look positively geriatric.[49]

Quantifying the potential impact of this characteristic of the NEI population/current workforce on the future workforce is beyond the scope of this study; however, it is likely to be an issue of significance. Precisely when these people retire is going to impact dramatically the size of the workforce, and for NEI, that impact is likely to occur sooner rather than later.

[48] The baby boom generation consists of those persons born between 1946 and 1964 inclusively.

[49] In a union plant this was by contract; but even in non-union plants there was probably a tendency to retain those employees based on experience/training.

Consider Quality Jobs as A Primary Goal

Winning the battle against the 1979-1982 debacle has not been costless; the quality of jobs in NEI declined significantly between 1979 and 1997. Therefore, consider growing job quality, not job quantity, as one—maybe even the principal—new goal. Given the persistently low unemployment rate (p. 49) and the projected slow growth in population (relative to the U.S.) (p. 13), a job quality goal should be both appropriate and politically acceptable public policy.

Researchers at a November 1996 symposium on state and local economic development agreed that "…in attempting to stimulate jobs, officials should be concerned about the quality as well as the quantity of new jobs created and the long-run effects as well as the short-run effects of development policies." [12, p.11]

The Indiana Economic Development Council recently (April 1999) developed a series of long-range economic goals. One of the six goals is to "create the highest rate of growth in the number of high skill, high pay jobs in the Midwest." [13, p. 12]

In the nineties, DeKalb County has had the most success in raising average wage and salary earnings.[50] It may be helpful to divine the reason(s) for its success. Certainly, the addition of the relatively high-paying jobs of Steel Dynamics, Inc. in 1996 is one reason; however, the relative improvement in job quality started before 1996.

Transportation

It is obvious from both the empirical evidence relative to NEI and the economic development literature that transportation infrastructure, especially highways, is absolutely essential to successful economic development—especially to a manufacturing-based economy. As researchers noted:

> "Of all the public services examined for an influence on economic development, transportation services, and highway facilities especially, show the most substantial evidence." [51] [12, p. 55]

Furthermore, another major advantage of public expenditures on transportation is that the impact of the expenditures can't disappear. A road can't be moved! Contrast that with education expenditures which are lost (to the region) if people receiving the education leave the region.

The recent completion of the I-469 bypass around Fort Wayne bodes well for Allen County in particular and NEI in general. Research suggests that economic development will proceed along a highway of this type for at least 20 years.

The proposed upgrading and rerouting of U.S. 24, especially between Fort Wayne and Toledo (Ohio), would enhance the value of the I-469 bypass by creating a more efficient, safer east-west route from/to/through Fort Wayne. An improved U.S. 24 also would give NEI more efficient, safer access to the Toledo port facilities. If a multiplicative effect results when an area has both N-S and E-W access to efficient-safe transportation facilities (as is suggested in the case of Steuben County), then improving U.S. 24 is particularly important. It is recommended that the completion of U.S. 24 improvements be accomplished ASAP.

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[50] Technically, Lagrange County had similar success to DeKalb County in raising job quality in the nineties. However, the average wage and salary in Lagrange County is relative low compared to most of the other counties. If attracting higher quality jobs requires different strategies, Lagrange County may not be particularly instructive.

[51] "It is difficult for even the most careful statistical studies to discern the influence of state policies on growth and development. State policies differ in various and subtle ways, while there are a multitude of confounding factors such as work force characteristics, wages, transportation access, access to markets, climate, public infrastructure, and previous development." [p. 5, Assessing the Midwest Economy, #5]

It is beyond the scope of this paper to evaluate the status of planned transportation facilities in NEI. Although completion of the two projects noted above will undoubtedly help highway transportation, the relevant question is whether these projects are sufficient. It is imperative that NEI maintain/attain an excellent transportation infrastructure. To that end, a comprehensive, periodic review of the transportation needs for NEI present and targeted industries is an obvious need/recommendation.[52]

Education

"In the past, firms focused on simplifying production tasks so that workers needed to master only one or two specific skills. Today's high-performance firms require workers with significantly more sophisticated social and intellectual skills to support the decision making that now occurs at all levels of the company." [5, p. 3]

That the demand for higher-skilled individuals has risen (and continues to rise) is indisputable.

Change in Average Full-time Weekly Wages, 1979-1993

Education Level	Men	Women
High school dropout	-22.5%	-6.3%
High school graduate	-11.9	5.7
High school graduate (+)	-5.3	11.0
College Graduate	9.8	27.1

Source: [4, p. 5]

According to the 1990 census, 38.2 percent of the 25 or over population in NEI had a high school diploma (but no higher) versus 30.0 percent for the U.S. (See p. 17.) However, the situation was reversed with respect to college graduates (bachelor's degree) or higher—15.0 percent of the 25 or over population in NEI versus 20.3 percent for the U.S. Indiana had 15.6 percent. (See p. 19.)

More recent (1998) data for Indiana as a whole show Indiana ranked 47th with only 17.7 percent of the 25 or over population being college graduates or higher versus 24.4 percent for the U.S.[53] [14, p. 110] The gap has widened markedly from 4.7 percentage points in 1989 to 6.7 percentage points in 1998.

Furthermore, Indiana ranked last among the Great Lakes' states:

Rank in U.S.	State	Pct. College Graduates Or Higher
17th	Illinois	25.8%
28	Wisconsin	22.3
29	Michigan	22.1
33	Ohio	21.5
47	Indiana	17.7

Source: College Attainment, Current Population Survey, Census Bureau, U.S. Department of Commerce, March 1999.

[52] The authors recognize that the Northeast Indiana Regional Coordinating Council performs this function in NEI, and this recommendation is not meant to reflect negatively on that organization or its work. The recommendation simply raises the question whether current planning receives adequate input from economic development experts and whether the planning is sufficiently global. For example, "out-of the-box" thinking might suggest modification of current planning to upgrade U.S. 24 from Fort Wayne to Toledo to include some special need to enhance movement of raw materials/product to/from the port facilities located at Toledo. Movement of liquids to/from the port by pipeline located adjacent to the upgraded U.S. 24 is an example. This is NOT a recommendation but rather an example of a more global vision of transportation infrastructure planning.

[53] The educational attainments for Indiana and NEI have been similar.

Also, Kentucky ranked 42nd in 1998, five positions ahead of Indiana.

The obvious policy question is how to increase the level of education of NEI residents in particular and Indiana residents in general.

The fundamental problem certainly is not in the production of college graduates. According to the National Center for Education Statistics, Indiana ranked twelfth in the number of bachelor's degrees granted in 1997.

The fundamental problem is keeping college graduates in Indiana. Providing an incentive(s) certainly ought to be considered. For example, resident students could be offered a yearly loan amount to attend the higher education institution of their choice; however, the loan would systematically be forgiven if as graduates they worked in Indiana after graduation. The incentive would accomplish a secondary goal of making college more affordable/accessible.[54]

This is primarily a state policy issue; however, foundation(s) could pilot various incentives.

Even if the problem of keeping college graduates in Indiana is addressed/solved, there still exists a mal-distribution of public higher education expenditures across the state. That the state support for IPFW has been abysmal (relative to the other institutions) is a matter of public record. [24]

In a 1998 study, the Community Research Institute determined that of allocable appropriations/expenditures by state government, NEI residents have been contributing approximately $85 million more annually than the region is receiving. [24] Over $20 million of the shortfall has been in K-12 education. Given the politics of school funding, the probability is small that this shortfall can be recouped via individual school system increases.

Given the importance of manufacturing employment to NEI and the ever increasing need for skilled and trained workers, NEI ought to consider starting a high-tech manufacturing vocational education center to serve the region. Consider making it a substitute for the last two years of high school. Make acceptance to the school competitive. Make graduation from the school prestigious. Make it (and keep it) state of the art. Have input from manufacturing firms in all phases of the school's operation. Most importantly, have state government finance it in lieu of the $20 million annual shortfall experienced in K-12 education.

Additionally, incentivize the program. Students could be provided stipends (in the form of loan monies) for attending, and the loans could systematically be forgiven if as graduates they worked in Indiana.

Smith suggested "…that training needs to be more customer focused and based on a just-in-time model." [5, p. 3] A high-tech manufacturing vocational education center located in NEI does that.

[54] The Twenty-first Century Scholars Program begun in 1990 already addresses the college affordability issue facing low- and moderate-income families. Income-eligible eighth graders who enroll in the program and fulfill a pledge of good citizenship to the state are guaranteed the cost of four years of college tuition at any participating public college or university in Indiana. If the student attends a private institution, the state will award an amount comparable to that of a public institution. An incentive program could enhance affordability; however, the prime advantage is that it increases the probability that college graduates will remain and work in Indiana.

Manufacturing Strategies

1. Knudsen, professor of Geography at Indiana University, has noted that "lean manufacturing does not provide us with a blueprint for manufacturing in general." He has argued that "three different types of a new production system are currently emerging: the 'neo-Fordist' system, typified by the U.S. auto industry; lean production, which is associated with the Toyota corporation in Japan; and the system of specialization, mostly found in Europe."

   As for policy implications, Smith has noted: "Today the Midwest economy is uniquely positioned to adapt its manufacturing sector to high-performance manufacturing and to other leading edge technologies as the best U.S., European, and Japanese manufacturers all have a presence in the region."[55] [3, p.13]

Service Sector Strategies

"Suburbs and small to medium-sized metropolitan areas appear best able to provide a hospitable environment for…specialized service functions that can be digitized. The optimal scale of service establishments has been growing, even while that of manufacturing facilities has been shrinking. As a result, it is often the scale at which service workers desire to live—which ultimately translates into the firm's labor costs—that is helping to determine the location of new service establishments." [2, p.7]

Amenities

Additionally, "…amenities will play an increasingly important role in determining the location of economic activity." [2, p.9] Because of the increasing ease of transferring digital information, many service companies increasingly can choose where they locate. Accordingly, they will locate where their workers desire to live. Accordingly, the cultural and recreational amenities may be increasingly important in attracting (and/or retaining) service companies. [2, p. 6-9]

These factors may explain "…the rise of many medium-sized Sun Belt cities—Charlotte, Nashville, and Jacksonville—as examples of metro areas where living costs remain low while population size is sufficient to support popular amenities such as professional sports teams." [2, p.7]

In simplest terms, "…(areas) with high-productivity enhancing site characteristics increase the demand for labor, and cities with high-amenity site characteristics increase the supply of labor. [3, p. 7]

Government Structure

Richard Mattoon, senior economist at the Federal Reserve Bank of Chicago, has raised the possibility that a more unified government may help the economic development process through a variety of policies that are more efficient and effective than the narrow self-interest policies pursued by multiple units of government—counties, cities, towns, townships, etc. At least two examples of successful unified government structures exist in the Great Lakes' states: Indianapolis and Minneapolis-St. Paul. "Regional tax base sharing for commercial development and region wide planning for land-use decisions reduce the tendency for towns to bid destructively for commercial development and arguable improve siting decisions for large regional developments…. At the same time, fragmented government itself arises from the residential location process

[55] Smith defined a 'high-performance' economy as one that maximizes the flow of information, the creation of knowledge, and the application of knowledge through the production of firms…. (He) emphasized that it embraces fundamental changes in organizational structures geared toward creating a sustainable advantage. [p. 3, Assessing the Midwest Economy, #4]

in which the higher-income residents collect in exclusive suburbs to avoid subsidizing public services consumed by the poor. As one prototype solution to under provision of central city facilities, Mattoon (has) cited Pittsburgh's 'regional asset' approach, whereby facilities such as museums, parks, and zoos are funded on a region wide basis even though they may be located in or controlled by the city." [2, p.5]

That Allen County government and Fort Wayne city government have disagreed periodically on a variety of issues is a matter of public record. That the cities of Fort Wayne and New Haven have disagreed also is a matter of public record.

To increase the probability of future economic success, it may be appropriate for the entire Allen County community at minimum (and even all six metro area counties) to consider seriously the question Mattoon has raised and to evaluate critically the success of Indianapolis and Minneapolis -St. Paul, and to ask whether a less fractious government structure may be superior for fighting the economic wars of the future.

One conclusion is clear from the analysis above. The city of Fort Wayne is not going to prosper without economic success from the outlying region, and vice versa! Either the extended metropolitan area prospers or it does not prosper. Remember, a metropolitan area by definition is a relatively homogeneous, cohesive economic and geographic unit.

LITERATURE REVIEW

Three primary sources were invaluable in completing this study.

Late in 1995, the Federal Reserve Bank of Chicago (http://frbchi.org) began a yearlong assessment of the Midwest economy.[56] The Bank investigated in detail the precise questions of interest in this study also (but relative to a larger geographical area of which NEI is an integral part):

1. Why was the Midwest so successful in recovering from the rustbelt debacle?
2. What does the success of the past portend for the future, or are we so naï ve as to expect the current "good times" just to continue forever?
3. What policy strategies might the Midwest consider making to increase the probability that the "good times" do in fact continue?

"Public and private researchers decision makers, academic researchers, and economists from the research department of the Bank addressed these issues at a series of workshops held at the Bank over the course of the year…. (One result was the publication of) more than two dozen papers focusing on critical subjects, including industry trends, the agricultural and urban sectors, global markets, taxes and regulation, the labor force, education, and technology." The findings, which might be described as an executive summary, are contained in the following publication:

[1] Testa, William, Thomas Klier, and Richard H. Matoon. 1997. *Assessing the Midwest Economy: Looking Back for the Future*. Federal Reserve Bank of Chicago, April.

Additionally, there was a separate summary produced from each of the workshops held at the Bank:

[2] *Midwestern Metropolitan Areas: Performance and Policy*. First Workshop held November 28, 1995. Federal Reserve Bank of Chicago.

[3] *The Midwest Economy: Structure and Performance*. Second Workshop held February 16, 1996. Federal Reserve Bank of Chicago.

[56] NEI is in the Federal Reserve Bank of Chicago's district.

[4] *The Changing Rural Economy of the Midwest*. Third Workshop held March 8, 1996. Federal Reserve Bank of Chicago.

[5] *Workforce Developments: Issues for the Midwest Economy*. Fourth Workshop held May 15, 1996. Federal Reserve Bank of Chicago.

[6] *Designing State—Local Fiscal Policy for Growth and Development*. Fifth Workshop held July 17, 1996. Federal Reserve Bank of Chicago.

[7] *Global Linkages to the Midwest Economy*. Sixth Workshop held September 18, 1996. Federal Reserve Bank of Chicago.

Numerous working papers (presented at the workshops) were published. A complete listing is contained in the summary publication. [1] Some of the working papers of particular interest to this study included:

[8] Klier, Thomas. 1998. *Geographic Concentration in U.S. Manufacturing: Evidence from the U.S. Auto Supplier Industry*. Federal Reserve Bank of Chicago, Research Department, Working Paper Series 98-17, December.

[9] Rubenstein, James. 1996. *The Evolving Geography of Production—Is Manufacturing Activity Moving Out of the Midwest? Evidence from the Auto Industry*. Federal Reserve Bank of Chicago, Research Department, SP-3, February.

[10] Shi, Shouyong. 1999. *Unskilled workers in an Economy with Skill-Biased Technology*. Federal Reserve Bank of Chicago, Research Department, Working Paper Series 99-5, March.

The second primary source was a recent publication of the University of Kentucky looking at the same issues and asking the same questions raised by the Federal Reserve Bank of Chicago. The publication itself contains an excellent bibliography. The outline followed in the UK study was used in this study. The subtitle of the publication is "A study of the forces that have shaped the Commonwealth's economy over the past 30 years and a look a potential scenarios for the future."

[11] Berger, Mark, et al. 1999. *Long-term Trends in the Kentucky Economy*. University of Kentucky, Gatton College of Business and Economics, Center for Business and Economic Research, July.

The third primary source was the proceedings of a symposium held November 8, 1996 and sponsored by the Federal Reserve Bank of Boston. The publication itself contains an excellent bibliography.

[12] "The Effects of State and Local Public Policies on Economic Development." 1997. Federal Reserve Bank of Boston, *New England Economic Review*, March/April.

Indiana Specific

The Indiana Economic Development Council (IEDC) (http://www.iedc.org) was created by the Indiana General Assembly in 1985. It is the State's lead consultant on economic development matters. IEDC provides public policy analysis and serves as an information clearinghouse that assists all parties in understanding the characteristics of and trends in Indiana's economy and the State's changing competitive position:

[13] *Break Away Growth: Strategic Plan for Economic Development*. 1999. Indiana Economic Development Council, April.

[14] *Indiana Benchmarks 1999: Indicators for Monitoring Indiana's Competitive Performance*, 2nd ed. Indiana Economic Development Council.

[15] "Where are Indiana's High-Pay Opportunities." 1999. Indiana Economic Development Council, *1998 Economic Development Report to the Governor,* April.

The Indiana Fiscal Policy Institute (IFPI), formed in 1987, is a private, non-profit governmental research organization. It states that "It is the only independent statewide source of continuing research into the impact of state taxing and spending policies in Indiana." It has completed a series of studies on human capital retention:

[16] *The Evolution of Indiana's Labor Force: 1968-1997: A Comparative Analysis*. 1998. Indiana Fiscal Policy Institute, December.

[17] *Graduate Migration from Indiana's Postsecondary Institutions.* 1999. Indiana Fiscal Policy Institute, April.

[18] *The Indiana Workforce: An Employer's Perspective*. 2000. Indiana Fiscal Policy Institute, January.

[19] *Survey of Current Practices in Postsecondary Graduate Retention*. 2000. Indiana Fiscal Policy Institute, February.

The Indianapolis based Hudson Institute (http://www.hudson.org) often publishes articles that are Indiana specific. One of particular interest in this study was:

[20] Garber, Michael, Justin Heet, and William Styring III. 2000. *Indiana Education On Shaky Ground*. Hudson Institute, Education Policy Center.

Other Indiana specific studies of relevance to this study include the following:

[21] DeBoer, Larry. 1999. "Taxing Inventory: An Analysis of Its Effects in Indiana." Indiana University, Indiana Business Research Center, *Indiana Business Review*, Fall.

[22] Marcus, Morton. 1999. "What Do We Want From Economic Development?" Indiana University, Indiana Business Research Center, *Indiana Business Review*, Fall.

Northeast Indiana Specific

[23] *An Economic Analysis of Allen County*. 1998. Allen County Department of Planning Services.

[24] Guthrie, Thomas, George Bullion, William Ludwin, and Valerie Richardson. 1998. *A Comparison of the Amount (and Percentage) of Expenditures/Distributions by the State of Indiana in Northeast Indiana to the Amount (and Percentage) of Payments from Northeast Indiana to the State for the Years 1994-1996*. Indiana University Purdue University at Fort Wayne, Community Research Institute, October.

[25] Loviscek, Anthony and Frederick Crowley. 1987. *Studies on Regional Economic Development and Implications for Northeast Indiana: A Compendium.* Indiana University Purdue University at Fort Wayne, Community Research Institute, June. Contains an overview of economic development studies pertinent to Northeast Indiana, Indiana and the Great Lakes' region.

Natural Amenities

[26] McGranahan, David. 1999. *Natural Amenities Drive Rural Population Change*. U.S. Department of Agriculture, Economic Research Service, Food and Rural Economics Division, Agricultural Economic Report No. 781, September.

[27] Henderson, Jason and Kendall McDaniel. 1998. "Do Scenic Amenities Foster Economic Growth in Rural Areas?" Federal Reserve Bank of Kansas City, *Regional Economic Digest*, First Quarter.

Aging Workforce

[28] Jackson, Richard. 1991. *America's Indiana Summer: The Economic Impacts of Aging in the 1990s and Beyond*. Hudson Institute Briefing Paper, No. 132, May 28.

[29] "The Graying of America." 1998. Hudson Institute, *American Outlook Magazine*, Special Section, Fall Issue.

Business Location

In addition to the numerous references to business location research contained in the three "primary" sources noted above, the following are also excellent references:

[30] Crone, Theodore. "1997. Where Have All the Factory Jobs Gone—and Why?" Federal Reserve Bank of Philadelphia, *Business Review*, May/June. Contains an excellent bibliography.

[31] Hake, Donald, Donald Ploch, and William Fox. 1985. *Business Location Determinants in Tennessee*. University of Tennessee, Knoxville, College of Business Administration, October.

[32] Kolko, J. David. 1998. "New England at Your Service: The New Geography of Service Industries." Federal Reserve Bank of Boston, *Regional Review*, Fourth Quarter.

Defining Economic Areas

[33] Revised Standards for Defining Metropolitan Areas in the 1990s. U.S. Census Bureau. (http://www.census.gov/population/www/estimates/mastand.html)

Education

[34] Kodrzycki, Yolanda. 1999. "Geographic Shifts in Higher Education." Federal Reserve Bank of Boston *New England Economic Review*, July/August.

International Trade

[35] *A World of Choices: Are We Better Off with International Trade?* Federal Reserve Bank of Chicago 1998 Annual Report. Articles of particular relevance include "Have Open Markets Helped the Midwest?" and "Who are our Biggest Trading Partners?"

[36] Coughlin, Cletus and Patricia Pollard. 2000. "State Exports and the Asian Crisis." Federal Reserve Bank of St. Louis *Review*, January/February.

[37] Testa, William A., David A. Oppedahl, and Lola S. Merkel. 2000. "The Binational Great Lakes' Economy." Federal Reserve Bank of Chicago, *Chicago Fed Letter* No 153. May.

Technology

[38] Fuhrer, Jeffry and Jane Little. 1996. *Technology and Growth: Conference Proceedings.* Federal Reserve Bank of Boston, Conference Series No. 40, June.

[39] Seigel, Donald. 1999. *Skill-Biased Technological Change: Evidence from a Firm-Level Survey*. W. E. Upjohn Institute for Employment Research, Kalamazoo, MI.

Workforce

Following is a list of workforce relates studies in addition to the several Indiana specific studies cited above:

[40] Gazel, Ricardo and Chad Wilkerson. 1999. "Regional Economic Update: The Consequences of a Tight labor Market." Federal Reserve Bank of Kansas City, *Regional Economic Digest*, Second Quarter.

[41] Judy, Richard J. 1998. "The Coming Retirement Torrent." *American Outlook Magazine*, The Hudson Institute. Fall.

[42] Kaglic, Richard and William Testa. 1999. "Slow Workforce Growth: A Challenge for the Midwest?" Federal Reserve Bank of Chicago, *Economic Perspectives*, Second Quarter.